

THE JOURNAL

OF THE

Royal United Service Institution.

VOL. LXVI.

NOVEMBER, 1921.

No. 464.

[Authors alone are responsible for the contents of their respective Papers. All communications (except those for perusal by the Editor only) should be addressed to the Secretary, Royal United Service Institution.]

NAVAL COSTUME PAST AND PRESENT.

By **COMMANDER R. N. SUTER, D.S.O., R.N.**

On Wednesday, 26th January, 1921.

LIEUTENANT-COLONEL SIR ARTHUR LEETHAM, C.M.G., F.S.A.
(Secretary of the Institution), in the Chair.

THE CHAIRMAN: Ladies and Gentlemen, it is with great regret I have to announce that Admiral of the Fleet, Earl Beatty, has just sent me a note saying that he is unavoidably detained at the Admiralty and will be unable to be present. I am exceedingly sorry that Earl Beatty has been unable to attend, because I know his lordship is particularly interested in the subject and was very anxious to be here.

I now have the honour to introduce to you Commander Suter, who will read a paper on "Naval Costume Past and Present."

THE first definite information that we have of clothing worn by seamen comes down to us from the Roman invasion when we learn that the Veneti put to sea from the Loire in speedy longboats, and that the sails and clothing of the crews were dyed a light blue colour, presumably to lessen the chances of being seen. Later, with the arrival of the Danes, black seems to have been the predominant colour. Just before the Norman invasion the colour appears to have reverted to blue, and as a defensive costume leather jerkins were introduced.

Throughout the Middle Ages seamen wore the ordinary clothing of the common people, with the addition of a jerkin with the Royal or feudal lord's cognizance emblazoned on it. In the wardrobe accounts Henry III assigned sixteen shillings to the master of the "Great Ship" to purchase robes, and this practice was continued to James I reign (1604). In 1385 Richard II ordered that the armed forces of the Crown should wear the sign of the arms of St. George both before and behind. This was apparently a safeguard to distinguish friend from foe, and is believed to have been adopted from the Scots. A sea gown was also worn, and lasted down to the Stuart times: it consisted of coarse frieze falling to the knee and girdled at the waist. In Tudor times the colours changed to green and white. Apparently, in Mary's reign the sky blue had been reverted to, as we learn that the seamen of Sir Hugh Willoughby's expedition to discover the north-west passage were dressed in this colour.

During the early Stuarts the colours and facings were changed to red and yellow, and so remained for officers until the establishment of the naval uniform in 1748, with exception of the Commonwealth period, when buff and brown were the colours. This, of course, did not in any way curb the ideas of those sartorially inclined, and we read of red coats faced with blue, blue faced with red, scarlet and silver, pink and grey faced with red. Gilbert Langley wrote in 1740 that whilst at Barbados some officers from H.M.S. "Gosport" who were dining with him mistook him for the commander of a vessel, as he was dressed in scarlet trimmed with silver. In 1745 Captain Windham and his officers in the "Kent" wore grey and silver faced with scarlet. It had also been the custom to buy soldiers' red coats and trim them with black. They were then worn as uniform. The former colours appeared to have been the favourite combination, as Admiral of the Fleet Hon. John Forbes, when invited to attend the board to give his opinion on the colours of the uniform to be adopted, selected these two as being our national colours. However, George II had already decided that the colours of the Duchess of Bedford's riding habit should be the future colours of the naval uniform, i.e., blue faced with white. To revert for a moment to the sailor in 1628, the issue of slop clothing on repayment was ordered by the Crown, in order to avoid "nastie beastliness by diseases and unwholesome ill smells in the ship," and has remained in force ever since. This issue undoubtedly led to a certain uniformity in the seamen's clothing, although it appears that many of them continued to wear the clothes they were pressed in.

From early times it had been the custom for captains to dress their boats' crews and even ships' companies in special rigs. Anson's barge crew were dressed in a rig resembling Thames watermen. In 1840 the Captain of the "Vernon" ordered his ship's company to wear red jerseys. In 1845 the "Blazer's" crew wore white and blue striped guernseys, and again in 1853 the Captain of the "Harlequin" dressed his boat's crew as Harlequins.

The sailors themselves also had ideas on the necessity of some uniformity, as after the capture of the "Hermione" (treasure ship) in 1762, they decreed that a gold-laced hat was an indispensable part of

their kit. On one of their number appearing in a silver-laced hat they very nearly executed summary justice on him. He was only excused on explaining that owing to all gold-laced hats having been bought up he had paid the same amount for his silver-laced one.

Fancy Names for Clothing.—A Portsmouth slop-seller's sign, 1790:—

“Morgan—Mercer and Sea-drapeer.

No. 85, opposite the Fountain Inn, High Street.

Sailors rigged complete from stem to stern, viz., chapeau, napeau, flying jib and flesh bag; inner pea, outer pea, and cold defender; rudder case and service to the same; up-haulers, down traders, fore-shoes, lacings, gaskets, etc.

With canvas bags
To hold your cags
And chests to sit upon,
Clasp-knives your meat
To cut, and eat,
When ship does lay along.”

We come now to the introduction of naval uniform proper. It had been the custom for officers to meet every Sunday evening at Wells Coffee House, Scotland Yard. On 16th February, 1746, during one of these meetings, they came to the conclusion that a uniform dress was useful, and necessary, agreeably to the practice of other nations. A committee was formed to draw up a memorial for presentation to the Admiralty. Specimens were ordered for Admiralty consideration, the final selection being made by George II, as I have already described. On 13th April, 1748, the Admiralty issued the following order:—

By the Commissioners for executing the Office of Lord
High Admiral, etc.

Whereas we judge it necessary, in order the better to distinguish the Rank of Sea Officers, to establish a Military Uniform cloathing for Admirals, Captains, Commanders, and Lieutenants, and judging it also necessary that persons acting as midshipmen should likewise have an uniform cloathing in order to their carrying the appearance which is necessary to distinguish their class to be in the Rank of Gentlemen, and give them better credit and figure in executing the commands of their superior officers; you are hereby required and directed to conform yourself to the said Establishment by wearing cloathing accordingly at all proper times; and to take care that such of the aforesaid officers and midshipmen who may be from time to time under your command do the like. And it is our further direction that no Commission Officer or midshipman do presume to wear any other uniform than what properly belongs to his rank, Patterns of which for Admirals and Vice-Admirals and also for Rear-Admirals may be seen at the Admiralty Office, and Patterns for each dress of other officers, vizt., Captains who have taken Post three years, and by His Majesty's late Regulations rank as Colonels; all other Post Captains who by these Regulations rank as Lieutenant-Colonels; Commanders not taking Post; and

Lieutenants, and likewise for midshipmen, will be lodged at the Navy Office, and with the Storekeeper of H.M. Yard at Plymouth.

Given under our hands, etc.,

13th April, 1748.

MINUTE—14TH APRIL, 1748.

Resolved that Pattern Suits of the Uniform Cloathing for the officers of the Navy be sent to the Navy Board, with direction to them to permit any of the officers to view the same from time to time as they have occasion. But it must be observed to them that there is no particular Pattern for the Masters' and Commanders' dress suits, as it varies only in the manner of Lacing from the Captains, who rank as Lieutenant-Colonels, therefore a description accompanies the Pattern, which they are to communicate to those concerned. Patterns also sent to Mr. Fletcher, Storekeeper at Plymouth, with the like direction.

Some difficulty was apparently experienced in obtaining the new uniform, as Admiral Boscawen wrote on 13th February, 1749: "The order for establishing the uniform enclosed in your letter of the 13th April cannot be complied with, as I am entirely at a loss with respect to patterns." It is further stated that as there was only one uniform coat in the wardroom the lieutenants wore it in turn when sent away on duty. The examples of early uniform now in the R.U.S.I. Museum are, I think, what was known as frock clothing and not full dress.

NOTE.—Uniform of Hawke's victory at Quiberon Bay, 20th November, 1759.

Order of 8th November, 1749, ordering uniform to be worn.

By the L.C.A., etc.

Having on our late visitation of H.M. several dockyards been on board the guardships stationed at each port, and upon mustering their respective companies observed *that the gentlemen on the quarter deck were not dressed in their proper uniform*, and that, even, some of the officers themselves, *though on duty*, neglected to wear *their proper clothing*. We do hereby require and direct you to give orders to the captains of all the guardships under your command, *to oblige their officers and gentlemen on their quarter decks to appear in their uniform upon all proper occasions*, and not to suffer any of the latter to walk the quarter deck unless they do comply therewith; and, in particular, *you are never to suffer any officer to act at a Court-martial in any other Habit than his proper uniform*. And as example is on these occasions extremely necessary, *you are to cause every captain under your command to appear in the said dress*, and we do expect that you yourself shall constantly appear in the same.

Given, &c., Nov. 8, 1749,

SANDWICH,
DUNCANNON,
WELBORE ELLIS,
THOMAS VILLIERS.

By Thomas Corbett, Secretary.

(From Letters of the Secretary of the Admiralty to Public Offices, Admirals, etc., April 22, 1767, to May 31, 1768. Public Record Office.)

Admiralty Office, 18th July, 1767.

Gentlemen,

My L.C.A. having, in pursuance of the King's pleasure, given directions that the full dress uniform cloathing appointed to be worn by the Admirals, Captains, Commanders, and Lieutenants of H.M. Fleet be discontinued, and that the Frock uniform cloathing appointed to be worn by those officers be altered as under-mentioned, vizt. :—

The Admirals' frocks to have narrow lappels down to the waist, small boot cuffs, and single lace instead of treble lace down the side skirts, to be laced with a plain mousquetaire lace, agreeable to the pattern lodged at your Office, and in all respects to be the same as that now worn.

The Captains' and Commanders' frocks to have narrow lappels down to the waist, and in all other respects to be the same as are now worn.

The Lieutenants' frocks to have narrow lappels down to the waist, *slash cuffs* like the Commanders (*without lace*) instead of roll cuffs, and in all other respects to remain as they are now worn. And that no other military uniform cloathing be worn by the said officers excepting such as have already provided themselves with cloathing agreeable to the Establishment of 1748 who are on that account to be allowed to wear the same until 4th June next. I am commanded by their Lordships to acquaint you therewith in order that you may cause proper information to be given to such persons as may apply to your Office or to the Storekeeper's Office at Plymouth for the same, and to send you enclosed the patterns of the lace intended for the Admirals' uniform to the end that they may be viewed by such persons as desire to see them.

I am, &c.,

PHILIP STEPHENS.

To the Navy Board.

(From Schomberg's Naval Chronology, Vol. I, p. 479, Supplement.)

"January, 1768. His Majesty having signified his pleasure to the L.C.A. that the *lappels and cuffs of the military uniform frocks* appointed to be worn by the *Lieutenants* in H.M. Fleet be, for the future, *white* instead of blue cloth, and the waistcoat, etc., plain white cloth with *gilt buttons* of the pattern now worn, without any lace; the *Lieutenants* of H.M. Fleet are directed to conform strictly thereto."

(From Letters of the Secretary of the Admiralty to Public Offices, &c., Jan. 1, 1773, to July 30, 1776. Public Record Office.)

Admiralty Office, 30 July, 1774.

Gentlemen,

My L.C.A. having, in pursuance of the King's pleasure, given directions that the uniform cloathing appointed to be worn by the Captains and Commanders of H.M. Fleet shall be altered in the manner

mentioned at the foot hereof; that the uniform so altered shall be considered as the *Full Dress*, and that a blue Frock with embroidered buttonholes conformable to the pattern to be lodged in your Office be allowed to be worn upon *common occasions*; I am commanded by their Lordships to send you herewith a pattern dress coat, altered as above mentioned, and also a pattern Frock, and am to signify their direction to you to cause proper information thereof to be given to such persons as may apply to your Office for the same.

I am, &c.,

PHILIP STEPHENS.

To the Navy Board.

"Alterations in the present uniform cloathing of the *Captains and Commanders of H.M. Fleet*, viz.:—The lace on the coat to return round the pockets and sleeves, the lappels and cuffs to be $2\frac{1}{2}$ in. broad, the lace upon the upper part of the lappels to run even with the bottom lace of the collar; *the buttons to be flat with an anchor and cable engraved thereon according to the pattern lodged at the Navy Office.* The waistcoat to be plain instead of laced; *the breeches to be of the same colour as the waistcoat instead of blue*, and both to have buttons of the same pattern as the coat.

Undress.—Blue frock, lappels, cuffs, and collars the same; the collar to button to the lappels, lap over behind, white shalloon lining; buttons same as for dress coat, gold embroidered buttonholes as under-mentioned, viz., for:—

Captains who have taken post 3 years or upwards, 12 holes in the lappels by threes; 3 in the flaps and 3 in the sleeves.

Post Captains of less than 3 years' standing, 12 holes in the lappels by twos; 4 holes in the flaps and 4 in the sleeves by twos.

Commanders, 12 holes in the lappels *regular*; 3 holes in the flaps and 3 in the sleeves; waistcoats and breeches same as full dress uniform."

NOTE.—Uniform of Rodney's victory of the *Saintes*, 12th April, 1782.

A word-painting of Nelson's appearance—from the pen of Prince William Henry, afterwards William IV, when serving as a Midshipman on board Lord Hood's flagship "*Barfleur*"—gives a very good idea of the naval captain of that period, 1782. Prince William wrote:

"I had the watch on deck when Captain Nelson of the '*Albemarle*' came alongside in his barge. He appeared to be the merest boy of a captain I ever beheld, and his dress was worthy of notice. He had on a full laced uniform; his lank unpowdered hair was tied in a stiff Hessian tail of extraordinary length; the old-fashioned flaps of his waistcoat added to the general quaintness of his figure, and produced an appearance which particularly attracted my attention, for I had never seen anything like it before, neither could I imagine who it was or what he came about. My doubts, however, were removed when Lord Hood introduced me to him."

(From Letters of the Secretary of the Admiralty to Public Offices, &c.,
Dec. 24, 1782, to March 20, 1783. Public Record Office.)

Admiralty Office, 11 Jan., 1783.

Gentlemen,

My L.C.A. having, in pursuance of the King's pleasure, given directions that the uniform cloathing appointed to be worn by the Flag Officers of H.M. Fleet shall be altered in the manner mentioned at the foot hereof, and that Commodores having Captains under them, the 1st Captain to the Admiral of the Fleet, and 1st Captains to Admirals Commanding-in-Chief Squadrons of 20 sail of the Line shall be distinguished by wearing the same frock uniform as Rear-Admirals, I am commanded by their Lordships to send you herewith patterns of the embroidery for the full dress; also the frock, and am to signify their direction to you to cause proper information thereof to be given to such persons as may apply to your Office for the same.

I am, &c.,

PHILIP STEPHENS.

To the Navy Board.

Admirals.—A blue cloth coat with white cuffs, white waistcoat and breeches, the coat and waistcoat to be embroidered with gold in pattern and description the same as that worn by Generals of H.M. Army; 3 rows of embroidery on the cuffs.

Vice-Admirals.—Ditto, with embroidery same as that worn by Lieutenant Generals; 2 rows of embroidery on the cuffs.

Rear-Admirals.—Ditto, with embroidery same as that worn by Major-Generals; 1 row of embroidery on the cuffs. Buttons of the same pattern as are now in use.

UNDRESS.

Admirals.—A blue cloth frock with blue cuffs and blue lappels, embroidered buttonholes, like those now in use, from the top to the bottom of the lappel at equal distances and 3 on the cuffs.

Vice-Admirals.—Ditto, with buttonholes 3 and 3.

Rear-Admirals.—Ditto, with buttonholes 2 and 2.

Plain white waistcoat and breeches. Buttons of the same pattern as that now in use.

N.B.—(1st Lord of the Admiralty on 11th January, 1783, Viscount Keppel.)

Admiralty Office, October 3, 1787.

The King having signified His Pleasure to my Lords Commissioners of the Admiralty, that the Uniform Cloathing, at present worn by the Flag Officers of His Majesty's Fleet, shall be altered in the manner mentioned at the foot hereof; and that Commodores having Captains under them, the First Captain to the Admiral of the Fleet, the First Captains to Admirals Commanding-in-Chief Squadrons of

Twenty sail of the Line or more, shall be distinguished by wearing the same Frock Uniform as Rear-Admirals; Their Lordships do hereby give Notice thereof to all Flag Officers, Commodores having Captains under them, and First Captains to the Admirals above-mentioned, and require and direct them to conform strictly thereto.

Such Flag Officers, however, as are provided with the Uniforms in present Use, are permitted to wear the same, if they think fit, for One Year from the Date hereof.

PHILIP STEPHENS.

UNIFORMS of the Flag Officers of His Majesty's Fleet to be hereafter as follows:—

FULL DRESS.

Admirals.—A Blue Cloth coat, laced with Gold Lace, and Loops of ditto on both Sides regular; three on the Flap; stand-up collar, with Two Laces; White Cloth Cuffs, with Three Laces; White Silk Lining; *Gilt Buttons, with a small Anchor in the Center, encircled with a Laurel*:—White Cloth Waistcoat, plain; Three Buttons to the Flap:—White Cloth Breeches.

Vice-Admirals.—The same, with only two Laces to the Cuffs.

Rear-Admirals.—Ditto, with only One Lace to the Cuffs.

UNDRESS.

Admirals.—A Blue Cloth Coat, with Blue Lappels, Cuffs and Collar; embroidered Buttonholes like those now in Use, regular in the Lappel; Three on the Flap. Three on the Cuff, and Three behind; Buttons same as above:—White Cloth Waistcoat and Breeches, plain.

Vice-Admirals.—Ditto, with Buttonholes, Three and Three.

Rear-Admirals.—Ditto, with Buttonholes, Two and Two.

N.B.—Patterns of the Lace and Buttons above-mentioned may be seen at the Admiralty Office and Navy Office.

ERRATUM.

In the *Gazettes* of the 9th, 13th, and 20th of last month, in the Order for the Full Dress Admiral's Uniform, for *White Silk Lining*, read *White Lining*. (From the *Gazette* dated Nov. 17, 1787.)

Admiralty Office, Nov. 17, 1787.

The King having signified to My Lords Commissioners of the Admiralty His Royal Pleasure that the Frock Uniform Cloathing, at present worn by the Flag Officers of His Majesty's Fleet, and the Uniform Cloathing now worn by the Captains, Masters and Commanders, Lieutenants, and Midshipmen of His Royal Navy, shall be altered in the Manner mentioned at the Foot hereof; and also that the *Uniform Cloathing hereafter described shall be worn by the Warrant Officers and Masters Mates of His Royal Navy*; their Lordships do

hereby give notice thereof to all Flag Officers, Captains, Masters and Commanders, Lieutenants, Warrant Officers, Masters Mates, and Midshipmen above-mentioned, and require and direct them to conform strictly thereto.

Such Officers, however, as are provided with the Uniforms in present Use, are permitted to wear the same, if they think fit, until they have Occasion to make up new Suits of Cloaths.

PHILIP STEPHENS.

ADMIRALS, Frocks.

Blue Coat, with Blue Lappels and Cuffs, Gold Lace Holes Three, pointing at the End, with the same Distinction in the Disposition of them for the different Ranks as before; stand-up Collar, with one Hole on each Side, Three Holes on the Flap, Three on the outside Cuff, and Three behind: White Lining; new Anchor Button with Laurel, same as to the Full Dress.

CAPTAINS, Post of Three Years, Full Dress.

Blue Coat, with White Lapels and Cuffs, laced with Gold Lace, the Pockets double-laced, round Cuff with Two Laces; Three Buttons to the Pockets and Cuffs; Blue stand-up Collar double laced, White Lining; *new Buttons with the Anchor in an oval*; White Cloth Waistcoat and Breeches, plain.

Ditto, Frocks.

Blue Cloth Coats, Blue Lapels and round Cuffs; fall-down Collar; Gold Lace Holes, square at both Ends, regular in the Lapels; Two to the Pocket, and Two to the Cuff, none behind; White lining, Buttons same as above: White Cloth Waistcoat and Breeches, plain.

CAPTAINS, under Three Years, Full Dress.

Blue Coat, with White Lapels and Cuffs, laced with Gold Lace; the Pocket once laced; round Cuff with One Lace; Three Buttons to Pockets and Cuffs; Blue stand-up Collar double laced White Lining, Button as above: White Cloth Waistcoat and Breeches, plain.

Ditto, Frocks.

Blue Coat, Blue Lapels, and ditto, round Cuffs; fall-down Collar; Gold Lace Holes, square at both Ends, Nine Holes in the Lapels by Three's; Two to the Pockets, and Two to the Cuff, none behind; White Lining; Buttons same as above: White Cloth Waistcoat and Breeches, plain.

MASTER and COMMANDERS, Full Dress.

Blue Cloth Coats, *with Blue Lapels and ditto*, round Cuffs, laced with Gold Lace; the Pocket once laced, and One on the Cuff; Three

Buttons to each; stand-up Collar, double-laced; White Lining, Buttons as above: White Cloth Waistcoat and Breeches, plain.

MASTERS and COMMANDERS, Frocks.

Blue Cloth Coats, with Blue Lapels, round Cuffs, and fall-down Collar; Gold Lace Holes, square at each End, Ten in the Lapels, by Two's; Two to the Pocket, and Two on the Cuff, none behind; White Lining; Buttons as above: White Cloth Waistcoat and Breeches, plain.

LIEUTENANTS, Full Dress.

Blue Cloth Coat, with White Lapels and ditto, round Cuffs; Holes regular in the Lappels; Three Buttons to the Pocket, and Three on the Cuff; stand-up Collar; White Lining; Buttons¹ same as the Captains; White Cloth Waistcoat and Breeches.

Undress.

Blue Cloth Coat, edged with White Cloth; Blue Lappels and ditto, round Cuffs; Three Buttons to the Pockets and Cuffs; Stand-up Collar; Buttons as above: White Cloth Waistcoat and Breeches.

WARRANT OFFICERS.

Blue Cloth Coat, with Blue Lappels and round Cuffs; fall-down Collar; Three Buttons to the Pocket and Cuff; White Lining, but not edged with White; Button with an Anchor, same as the Captains' former one: White Cloth Waistcoat and Breeches.

MASTERS MATES.

Blue Cloth Coat, edged with White; no Lappels; Blue round Cuff, with Three Buttons, and Three to the Pocket; fall-down Collar; White Lining; Buttons same as Warrant Officers: White Cloth Waistcoat and Breeches.

MIDSHIPMEN.

Blue Cloth Coat, no Lappels, Blue round Cuff, with Three Buttons, and Three to the Pocket; stand-up Collar, with small White Turnback as before; White Lining, but not edged; Buttons² same as Warrant Officers: White Cloth Waistcoat and Breeches.

NOTE.—Uniform Howe's victory of the Glorious 1st June, 1794.

Admiralty Office, June 1st, 1795.

The King having signified to My Lords Commissioners of the Admiralty His Royal Pleasure, that the Uniform Cloathing at present worn by the Flag Officers, Captains and Commanders of His Royal Navy, shall be altered in the Manner undermentioned.

¹ Had up to this time been rose buttons.

² Sugar loaf pattern before.

Their Lordships do hereby give Notice thereof to all Flag Officers, Captains and Commanders, and require and direct them strictly to conform thereto.

EVAN NEAPEAN.

FLAG OFFICERS. Full Dress.

Blue coat, *with Blue Lappels and round Cuffs*; the Lappels to have One Row of Gold Lace, and the Cuffs and Pockets Two; laced Button-holes: Two Gold Epaulettes: Gold-laced Hat, White Lining: White Waistcoat and Breeches.

The rank of the respective Flag Officers to be distinguished as follows, viz.:—

Admirals. Three Silver Stars on each Epaulette, and Three Rows of Lace on the Sleeves.

Vice-Admirals. Two ditto ditto.

Rear-Admirals. One ditto ditto.

FLAG OFFICERS. Undress.

Plain Blue Coats, lappelled, with the Buttons now in Use on the Sleeves and Pockets.—Ranks to be distinguished by the Epaulettes and Rows of Lace on the Sleeves, as in Full Dress.

CAPTAINS, Post of Three Years—Full Dress.

Blue Coat with Blue Lappels, and long Slash Sleeves, as formerly worn: The Lappels to have One Row of Gold Lace, and the Cuffs and Pockets Two: Two Plain Gold Epaulettes: White Lining: White Waistcoat and Breeches: Gold-laced Hat.

Ditto.—Undress.

Plain Blue Coats, lappelled: Buttons on the Sleeves and Pockets: Epaulettes to take off and put on occasionally: Plain Hat, and Blue Breeches, as may be convenient.

CAPTAINS, under Three Years—Full Dress.

The same in every Respect as Post Captains of Three Years, but to wear only one Epaulette on the Right Shoulder.

Ditto.—Undress.

The same as Post Captains of Three Years, with the Difference only of wearing but One Epaulette, as in the Full Dress.

COMMANDERS—Full Dress.

The same as Post Captains, with a plain Gold Epaulette on the Left Shoulder.

COMMANDERS—Undress.

The same as Post Captains, with a plain Gold Epaulette, as in the Full Dress, to take off and put on occasionally.

N.B.—The Lace to be of the same Pattern as was in Use previously to the Year 1787; but that to be worn by Flag Officers to be of greater Breadth than that of the Captains.

Officers will be allowed to wear their present Uniform till the 1st of June, 1796.

Pattern Suits, with the Laces and Buttons, may be seen at the Admiralty Office.

NOTE.—Uniform of Jarvis' victory of St. Vincent, 14th February, 1797, Duncan's victory of Camperdown, 11th October, 1797, and also Nelson's victories, Nile, Copenhagen, and Trafalgar.

(From the *Naval Chronicle*, Vol. 18, p. 153.)

Admiralty Office, August 7, 1807.

The King having signified to My Lords Commissioners of the Admiralty His Royal pleasure that the following Uniform Clothing shall, in future, be worn by the Masters and Purser in his Royal Navy, their Lordships do, hereby, give notice thereof to all Masters and Purser in His Majesty's Royal Navy accordingly, and require and direct them to conform strictly thereunto.

Full Dress.—Blue cloth coat with blue lappels, cuffs, and collar, collar to stand up; 3 buttons on pockets and cuffs; white lining; white cloth waistcoat and breeches; plain hat.

Undress.—Blue cloth coat, blue lappels, and round cuffs, fall-down blue collar, waistcoat and breeches of white or blue cloth, as may be convenient. The buttons worn by the Masters to bear the Arms of the Navy Office; and, by the Purser, those of the Victualling Office.

And the L.C.A. do, hereby, further give notice that the uniform directed in pursuance of His Majesty's order, on the 17th November, 1787, to be worn by the Warrant Officers of H.M. Fleet, vizt.: "Blue cloth coat, with blue lappels and round cuffs, fall-down collar, three buttons to the pocket and cuff, white lining but not edged with white, *button with an anchor same as Captains' former one*, white cloth waistcoat and breeches." Shall be worn only by gunners, boatswains, and carpenters: and the subordinate classes of warrant officers shall not be allowed to wear lappels.

(THE HONBLE.) WILLIAM WELLESLEY POLE (M.P.).
(Secretary of the Admiralty.)

(From *Naval Chronicle*, Vol. 24, p. 259.)

Admiralty Office, Sept. 22, 1810.

The King having signified to my Lords Commissioners of the Admiralty his Royal pleasure that those Post Captains of H.M. Navy, who, being Commissioners of the Navy, Victualling, or Transport Services, may have been passed over at any Flag promotion, by

Officers junior to themselves being promoted to the rank of Rear-Admiral, shall be allowed to wear the undress uniform of a Rear-Admiral of H.M. Fleet with the deviations undermentioned, vizt. :—

The Epaulettes to be without the Star of those worn by Rear-Admirals, and, in all respects, similar to those worn by Post Captains.

The buttons to contain the Arms of the Navy Office (3 anchors) or of the Victualling Office (2 anchors crossed saltierwise) or of the Transport Office (1 anchor and 1 cannon crossed saltierwise) as the case may be, respectively, surrounded with laurel. And also, that those Post Captains who may be Commissioners of the Navy, Victualling, or Transport Service, but, from their Seniority, have not been passed over, shall continue to wear the uniform of their rank without any deviation, whatever. Their Lordships, hereby, give notice thereof, in order that the Captains abovementioned may conform thereto.

JOHN BARROW.

(2nd Sec. to the Admiralty.)

(From *London Gazette*, March 28, 1812, and *Naval Chronicle*, Vol. 27, p. 308.)

Admiralty Office, March 23, 1812.

His Royal Highness the Prince Regent hath, in the name and on behalf of His Majesty, signified to my Lords Commissioners of the Admiralty the Royal pleasure that the uniform clothing at present worn by the Flag Officers, Captains, Commanders, Lieutenants, Master's Mates, and Midshipmen of H.M. Royal Navy shall be altered as undermentioned, vizt. :—

Admiral of the Fleet, Full Dress.—Blue cloth coat, ditto collar, white cloth lappels, and cuffs with five laces round the cuffs; laced as at present: epauletted as now; ditto buttons, with addition of a Crown over the anchor.

Undress.—Blue cloth, blue cloth collar, white lappels and cuffs, with five laces; laced round the collar and lappels to the end of the skirts; flap and frame, hips and flaps as at present; epaulettes and buttons same as in dress uniform.

Admirals' Full Dress.—Same as Admiral of the Fleet, with only 4 rows of lace on the cuffs.

Vice-Admirals' Full Dress.—Same as Admirals, with only 3 rows of lace on the cuffs.

Rear-Admirals' Full Dress.—Same as Vice-Admirals, with only 2 rows of lace on the cuffs.

The Epaulette, with the respective distinctions of 3, 2, or 1 Star, the same as at present. Buttons as at present, with the addition of a Crown over the anchor. The undress frock uniform of Flag Officers, except the Admiral of the Fleet, to be the same as at present with the alteration of the buttons.

The Captain to the Admiral of the Fleet, and 1st Captains to Commander-in-Chief (if not Flag Officers) to wear whilst so employed the undress or frock uniform of Rear-Admirals.

Captains and Commanders of H.M. Fleet to wear uniforms of the same pattern. The full dress to be similar to that in use, excepting that the lappels and cuffs are in future to be white, laced as at present, with the Crown over the anchor on the button. Captains and Commanders are both to wear two epaulettes of the same pattern as at present, with only the following distinctions:—The Epaulettes of 3 years' Post to have an addition of a silver Crown over a silver anchor. The epaulettes of Captains under 3 years' Post to have the silver anchor without the Crown. The epaulettes of Commanders to be plain.

Lieutenants to wear a Dress Uniform of the same pattern as Captains and Commanders, but without any lace and with one plain epaulette (similar to that now worn by Captains and Commanders) on the right shoulder; buttons same as Captains.

The undress or frock uniform of Captains, Commanders, and Lieutenants, respectively, to be the same as at present, with the addition of the epaulettes and buttons, which are to be worn same as in full dress.

All Commissioned Officers to have white linings to their dress uniform. Flag Officers to have white silk. Masters' Mates and Midshipmen to wear the same uniform as now with new buttons.

The said alteration to take effect on 12th August, 1812.

JOHN WILSON CROKER.

(Secretary of the Admiralty and M.P.)

"Lines addressed to Lieutenants R.N. on the change of uniform on August 12, 1812, which took place on the anniversary of the birthday of the Prince Regent" (published at p. 296 of Vol. XXVIII of the *Naval Chronicle*):—

Ye gallant subjects of old Davy,
The jolly "Luffs" of Britain's Navy,
Come listen to my lay;
With hope light up your rugged faces
Like eager cruiser when she chases
And chides her tardy way.

Your claims so often urg'd in vain
To that bright prize you've bled to gain
The Regent Prince admits;
That you may be allowed to wear
The Epaulette—badge proud and fair
He graciously permits.
No more shall Captain vain and stern,
Nor flippant Army subaltern
Alone the "bullion" wear;
No more Marine subordinate
On deck display the Epaulette
The while your shoulder's bare.

No more shall Merchant skippers dare
 Your button, late usurped, to wear
 Now, more respected grown;
 That button, late an anchor plain,
 The Regal Crown surmounts again¹
 To prove you the King's Own.

Now, with slash'd sleeve and Epaulette
 And trim cock'd hat with neat rosette
 You yield the palm to no men;
 With regulation sword and knot
 So bold and smart—you will I wot
 Be the delight of women.

It is noticeable that hats are not mentioned in the regulations until 1825. Three-cornered hats, however, with a silk cockade of George I first appear to have been worn, changed at the end of the century to two flaps and worn athwartships, one bent down in front, the other standing straight up behind. Later both flaps stood up with tassels dangling over each shoulder. In 1825 a cocked hat to be worn fore and aft with full and undress was ordered. At sea a round black hat, bound with silk, narrow silk band and black buckle, black cockade and loop, finished off with a strip of gold lace and button, known as the lightning conductor, or a cap of blue cloth with gold band and a crown was added in 1847.

Coat Collars.

From 1748-1774—There were none.

From 1774-1787—Flat collar.

1787 onwards—Stand up.

In 1825 full dress collars were used to carry the badges of profession. Masters wore the three anchor badge of the Navy Office; Physicians, Snake and Anchor; Purser's, the two anchors crossed.

In 1827 all collars were made to stand up, and the colour was changed from blue to white.

Cuffs.—The first kind were made full in order to allow for the lace on the waistcoat sleeves to protrude and fall over the hands. When the first full dress was abolished, 1767, smaller cuffs came in. All other ranks down to Lieutenant wearing a slash colour blue. In 1768 Lieutenants' cuffs and lappels changed to white. In 1774 blue was adopted by all ranks in undress, white being retained for full dress. In 1787 they were laced with gold, three for Admirals and two for Senior Captains, one for junior ditto and Commanders, the latter having blue facings.

At this period a lieutenant's undress coat was distinguished by a white piping. W.O.'s, i.e., masters, surgeons, pursers, gunners, bo'suns and carpenters, were given uniform and blue round caps, but

¹The word "again" looks as though the crown had at some earlier date surmounted the anchor, and was now restored to it.

no full dress. In 1795 white cuffs disappeared for all ranks, but reappeared in 1812, and finally disappeared in 1827, when they were replaced by white slashes as now. The distinction rings were removed. The spacing of buttons was also used to distinguish rank. In 1774 Senior Captains had 12 by threes, junior ditto 12 by twos, and commanders 12 regular. In 1783 flag officer rank was noted by their buttonholes, Admirals equidistant, Vice in threes, Rear in twos in undress, whilst in full dress they had 3, 2, or 1 row of embroidery on the cuffs, similar to Generals.

Buttons.—The earliest button was of bright metal, flat having a rose, another type was round and smooth. In 1774 an engraved anchor and cable on flat buttons was substituted. In 1787 the cable was removed and an anchor surrounded by laurel was substituted, an anchor in an oval being worn by officers under flag rank. W.O.'s same as Captain 1774 pattern.

The crown was revived in 1812, but embossed not engraved.

In 1827 special buttons were ordered to distinguish different branches, gunners, bo'suns, and carpenters wearing only an anchor. The engineers' first device was a beam engine surmounted by a crown.

In 1843 military branch officers had the buttons regularly spaced on double-breasted coats. Civilian branch, single-breasted with buttons spaced by twos, threes or fours according to their profession. In 1856 all buttons were made the same and as at present.

Waistcoats were originally white kerseymere, altered to white cloth in 1774, the former material being reverted to in 1825. Up to 1774 they were laced for Flag Officers, Captains and Commanders, but Flag Officers only continued to wear laced waistcoats up to 1787.

Breeches.—Prior to 1805 breeches were worn, but in this year pantaloons were adopted by officers who had taken to the Hessian boot. In 1825 kerseymere knee breeches and white and blue pantaloons were allowed. Later, in 1827, breeches were only to be worn at drawing-rooms.

Footgear had been generally shoes, which were gradually supplanted by the half boot introduced in 1825.

Epaulettes.—These came in 1795, as a result, it is said, of representations made by officers who went abroad, military officers, owing to their epaulettes being accorded marks of respect, etc., which were not accorded to their naval brothers owing to the lack of them. They were called swabs, due to their limp nature. Admirals wore two with one, two or three stars, according to rank. Captains over three years had two plain epaulettes. Under three years one on right shoulder. Commanders one on left shoulder. This arrangement remained till 1812 when all Captains and Commanders were given two epaulettes with a silver crown and anchor for senior captains, anchor for junior, and nothing for commanders, and lieutenants were given one plain, to be worn on the right shoulder.

Swords were first made uniform in 1805, and ten years later masters of the fleet and all non-executive officers were ordered to have black

hand grips, and the blades were not blued. In 1843 the white grip was brought in for all officers except W.O.'s (gunner, carpenter, etc.).

The following is a description of the uniform worn by naval officers of the "Viceroy of Ireland" yacht in 1823:—

Garment blue coat, embroidered on chest, cuffs and collar with sprigs of shamrock; white breeches with gold garters, hat and feathers, and sword. Undress: plain brown coat with shamrock buttons, buff breeches and waistcoat.

I will now just enumerate the main changes that took place after 1825.

1827. First mention of P.O.'s badges, which were white. Coats first made with skirts, and gold laced trousers introduced; also round hats for W.O.'s and midshipmen.

1828. Full dress coats were ordered to be buttoned up.

1830. The facings were changed from white to scarlet. Gold lace trousers were abolished and white breeches ceased to become a part of the naval officer's uniform. Later in the year gold laced trousers were reintroduced for flag officers only.

1831. White and blue trousers were regulated for full dress, according to season, and gold laced trousers reintroduced for all military officers.

1832. Masters of the fleet dressed as Commanders. Civil officers were given the same uniform as commissioned officers, but single-breasted. The buttons were three and three for physicians and surgeons. Secretaries two and two. Undress sword belt was introduced. Some misunderstanding having occurred W.O.'s were forbidden to wear cocked hats.

1833. Caps introduced with gold lace band.

1843. White facings reintroduced for collars and slash. Blue cuffs. Stripes for flag officers only.

1846. Two epaulettes for lieutenants, one for mates.

1847. Frock coat established, and scales for wear on board abolished.

1856. The curl was introduced for military officers, civil officers being given the same corresponding stripes without the curl and gold lace trousers. Captains had three rows, commanders two, lieutenants one. The cap was given a black band, and plain gold peaks were introduced for executive officers above lieutenants. The shape was something like the French képi. Dirks made uniform for midshipmen instead of swords.

1857. Uniform was introduced for men consisting of: Blue cloth jacket, blue cloth trousers, duck frock, duck trousers, serge frock, pea jacket, black and white hats, badges.

1860. W.O.'s were given the same buttons as remainder. The peaks of executive officers' caps were oak leaved, and civil branches were given plain, Petty officer badges white and blue.

1861. Sub-lieutenants emerged from mates, and were given one stripe. Lieutenants two, commanders three, captains four, commodores a broad stripe.

1864. A.D.C. wore a sash, and civil officers coloured stripes between the gold ones. Gunnery instructors' badges, red and blue, were brought in.

1865. White trousers were abolished in full dress.

1869. Beards and hat ribbons introduced for sailors.

1877. Additional half ring for lieutenant of eight years' seniority.

1879. The ship jacket later called monkey jacket introduced. Gold badges for men. Aiguillettes in lieu of sash for A.D.C.'s.

1891. Ball dress, mess dress, and undress regularized. In 1891 a much needed addition was made, officers' white uniforms being introduced. Blue coats had been the only rig on hot stations. This led to the coats being made so thin that it is said an order had to be issued ordering that they should be thick enough to prevent the braces being seen through them.

1915. Engineer officers given the curl.

1918. All officers given the curl, and full dress made optional.

To sum up, the origin of uniform appears to have been purely disciplinary, and the changes to have arisen from several causes, among which are, firstly, changes in contemporary fashions; secondly, ideas borrowed from foreign nations; thirdly, expense; and, lastly, a benevolent desire to please, if the following story has any truth in it. A lieutenant, on being twitted on the addition of the half stripe in 1877, replied "that anyone who had put on the same coat day after day, month after month, year after year, for eight years would be glad at even the addition of half a stripe."

DISCUSSION.

SURGEON REAR-ADMIRAL COLLINGWOOD: I think it would be of great interest if the lecturer could tell us the reason for the curl having been added to the plain stripe. It is difficult to find anything dealing with that matter in the various books on the subject.

COMMANDER SUTER: I am afraid I have not been able to ascertain anything definite about it, but the fairy tale about it is that a Captain Elliott was wounded in the arm in action during the Crimean War, and he twisted his lace round his arm in order to keep it up. The twist was therefore called "Elliott's eye," but whether that had anything to do with the introduction of the curl or not I do not know. I cannot find any definite reason for the curl having been adopted.

SURGEON REAR-ADMIRAL COLLINGWOOD: Did that incident occur about the date the curl was introduced?

COMMANDER SUTER: Yes, the curl was introduced in the year 1856; but the story is merely a fairy tale.

REAR-ADMIRAL CAULFIELD: Can you throw any light on that yarn about the three tapes? You know the old story. Are there any grounds for it?

COMMANDER SUTER: Apparently not. I have looked at the Minutes of the Committee that sat in 1856 on the subject of sailors' uniforms, and nothing is mentioned about it there. I imagine that it was owing to the sailor's love of decorating himself that he put two or three rows of tape on the collar. It is said

that the Committee decided to adopt two, but, owing to some mistake, when the final draft of the Uniform Regulations came out, "three" was substituted for the "two"; but I cannot find it in black and white. I think it has nothing at all to do with Nelson's victories. Everyone knows that the black handkerchief which the men wear now was worn for a considerable period before Nelson's time. The men when they went into action used those black handkerchiefs very much as boats' crews now tie a handkerchief round their heads. They used to take off their black silk handkerchiefs and tie them round their heads.

LIEUT.-COMMANDER H. D. CAPPER, R.N. : Can the lecturer tell us anything about a subject he has not mentioned at all, namely, the hat that used to be worn by the midshipman? I had in my possession at one time—it is now in the possession of another naval officer—a line engraving contemporary with the engagement between the "Chesapeake" and the "Shannon," showing a midshipman engaged in that action, he was wearing a sort of trilby hat. Captain Robinson is now in possession of that engraving. The lecturer also has not mentioned to us the peculiar high hat worn by the warrant officers which was introduced in 1810, and which did not go out, I believe, until about 1845, when they had a cap with a gold band. There is one further point that occurs to me, namely, that in the Painted Hall at Greenwich we have a fine painting of Admiral Cloudesley Shovel, who is wearing armour. Perhaps the lecturer can throw a little light on those three points.

COMMANDER SUTER : One knows definitely that some of the leaders of the Navy at that time did wear armour, but it was not uniform. As regards the warrant officers' hat, I am not quite certain, but I know there was some doubt about it, because an Order came out (I do not remember the date for the moment) under which warrant officers were ordered to wear a round hat. Evidently they had worn something before that date which was not considered uniform, or they had used the lieutenants' hat, or something of that sort. But an Order came out, I think it was in 1832, saying they were to revert to the round hat.

LIEUT.-COMMANDER H. D. CAPPER, R.N. : I do not know whether it will interest the audience to know it, but many years ago, when I was quite a youngster, I happened to come across a very old warrant officer, and one of his cherished possessions was a high hat like that in the picture, which he had used as uniform in his earlier days.

COLONEL BARWELL : Might I just in passing call attention to an influence in the development of costume of an official character, which I think it rather behoves us to bear in mind in these days, when the uniforms both of the Navy and of the Army are again the subject of reform, not to say of interference—and that is the influence of the tailor of the day on the development of the uniform? It is a remarkable thing that, whatever you design, the tailor not only makes but mars it in a generation. The whole development of buttons on costumes of that date, both in the Navy and in the Army, clearly shows that. First of all you have a coat buttoned back to a proper buttonhole; the big cuff to show the ruffles is bound back, and in a good many costumes of the period is buttoned back with a good wide buttonhole. Then the tailor comes along, and although he charges the same price he sews the buttonholes up, and the button and a mere tag remain. Then he goes a step further; he even takes the button and the buttonhole beyond their logical place; that is to say, he puts them on the collar, and staff officers of the Army and one Regiment (my own) still so wear them. We used to call it a "gorget" patch, but it is nothing to do with that. It is simply due to the tailors putting on the collar this little button and the tape, which represented a buttonhole. I had rather

hoped that the lecturer might express a few opinions, if he were permitted to do so, on the naval costume of to-day. His lecture is called: "Naval Costume Past and Present," and I notice already that the most picturesque costume of the Navy is to be done away with, and the least picturesque one is to be retained. I cannot help thinking that the tailors have more to do with that than the real reformers.

LIEUT.-COMMANDER H. D. CAPPER, R.N.: May I intervene again? I happened to serve on the Sub-Committee of the Committee which revised the uniforms in 1889. That Committee sat under the presidency of the late Duke of Edinburgh, and the alteration then made was an exceedingly drastic one. Unfortunately the lecturer has told us nothing about it at all. That Committee altered things very materially. In particular it introduced a number of articles which had never been used before. Leggings, for example, were things that sailors had never worn before. That Committee did away with what we used to call the storm hat with the "lightning conductor." Concurrently with that Committee there was another sitting on seamen's uniform, which did away with the sailors' black hat, and there were many other things it did which the lecturer might have mentioned. But certainly the buttons were the most remarkable things. As the lecturer has told us, every class of officer had different dispositions of the buttons on the coat. You could tell a doctor a mile off from a paymaster or an engineer, and you could do the same with the executive officer also. One of the main things that Committee tried to do was to standardize the uniform so that all officers had more or less the same. Thus we all nowadays wear four buttons, whereas in some cases there were many more; I think the warrant officers had forty-eight, they had buttons everywhere. It was a very good thing, as the last speaker has said, for the outfitters, because they charged for uniforms by the number of buttons. The paymaster had to pay less for these than the warrant officer, and he paid more than the executive officer, and so on. I am sorry the lecturer has not touched upon these matters, because the lecture is on the subject of naval uniform past and present, and I was looking forward to hearing something on these particular points.

COLONEL BARWELL: I omitted to ask one question that I should now like to ask. Is there any historical instance of uniforms being materially altered by the influence of specific officers of high rank? This was a point I was going to mention had the Chair been taken by Lord Beatty, because, rightly or wrongly, that distinguished admiral is reputed to have introduced at least two fashions which have, I suppose, come to stay, and I have been wondering whether any other historical instances of the kind have occurred. I refer to the incident which is, rightly or wrongly, connected with his name—that he omitted to button one specific button on his coat *here*, and the tailors for a large part of the Fleet, more particularly of the junior officers, took care to make the coat look well under those conditions. The second instance is one that I have witnessed myself, and I suppose all naval officers with the Fleet did, Lord Beatty's habit of wearing a white top to his cap during winter months when on the bridge, for the very good reason, I was told, that it enabled those whose business it was to bring him messages every hour to see whether he was on the bridge at that time. It might well happen that that might become an Order for officers of flag rank when in action. I wonder whether other historical instances of uniforms beginning in that way without sanction have occurred.

COMMANDER SUTER: There are several. The cockade was supposed to have been brought in by Keppel; and Hessian boots, which at one time altered the type of trousers to be worn, were supposed to have been brought in by Lord Rodney. Those are the outstanding instances I can think of at the moment. But I think

the uniforms have got rather too commonplace now to make vast alterations in them.

THE CHAIRMAN (Col. Sir Arthur Leatham): If no one else desires to ask any further questions it is now my duty to ask you, Ladies and Gentlemen, to accord a hearty vote of thanks to Commander Suter for his lecture. When he was delivering the lecture he left out a good part of it, but I am sure you will find when it is published *in extenso* in the JOURNAL that it is of the utmost interest, and that it will be most useful for reference. If Commander Suter had delivered the whole of his lecture we should have been here for a very long time. I am looking forward to seeing it in the JOURNAL, and I am sure you will then find, as I have already said, that it is a most useful and interesting piece of work.

I also ask you, Ladies and Gentlemen, to look at the gallery of prints showing the various changes in the naval uniform from 1748 to more recent times. Mr. Parker, the well-known print dealer, has kindly supplied them, and they are of great interest to those who are acquainted with the subject. They will be here until to-morrow afternoon, so that it will be possible for them to be seen in the daylight. The coloured prints showing the uniforms in the time of William IV belong to the Institution. They are almost a unique set. I personally have never seen another set anywhere. I believe the Admiralty once had a set, but it has disappeared. I now ask you to accord a hearty vote of thanks to Commander Suter for his most interesting lecture.

The resolution of thanks was then put and carried by acclamation.

COMMANDER SUTER: Mr. Chairman, Ladies and Gentlemen, many thanks for your kindness. I desire to thank Sir Arthur Leatham for all the trouble he has taken in collecting these prints and helping me through a somewhat difficult task.

The meeting then terminated.



BATTLE HONOURS OF THE BRITISH ARMY AND THEIR ANOMALIES.

By R. W. KNOLLYS.

"Let us now praise famous men and our fathers that begat us."

THE idea, prevalent in many minds, that the merits and glory of a regiment coincide with the length of its list of battle honours is, though not just, not unnatural: but when a rider is added to the effect that the men of some regiment, or still worse of some Territorial Division of the United Kingdom, are braver than others, the need for investigation becomes apparent.

The causes which tend to make the length of a string of honours an unjust standard by which to gauge a regiment's merits are, setting aside the question of luck in being on the spot, which is a most powerful factor, fourfold.

First, and very emphatically, the linked battalion system, together, in a minor degree, with the number of battalions in a regiment both now and 110 years ago.

Secondly, the anomalies in the decisions arrived at as to whether a war or campaign shall rank for battle honours at all.

Thirdly, the decisions as to what actions or affairs, if any, in the war or campaign are to rank as honours; and also, if individual affairs are recorded, whether the war as a whole shall be added as an honour.

Fourthly, the decisions as to which regiments shall be entitled to share in the honours.

The last three causes may be summed up under the title of War Office caprice. Tardiness in recognising the claims of certain regiments to honours under all three heads may be added.

The first cause is on an entirely different footing. Of the seventy-two regiments of Foot Guards and Infantry of the Line of which our infantry was composed at the outbreak of the last South African War—the last war before 1914 for which battle honours were granted—only thirty-one were unlinked; the remaining forty-one being each composed of two old regiments joined or linked together. In some cases the regiments so united had formerly been recruited (in theory) from adjacent districts, such as what are now known as the Gloucestershire and Worcestershire Regiments. In others they had been comrades in arms during the most glorious episodes in their career: such are the Oxford and Buckingham Light Infantry and the Connaught Rangers; and when the last was done the advantage gained by the linked over the unlinked regiments was distinctly reduced. But there

were other cases where, beyond taking advantage of the movement of the population, no method seems to have been adopted; so that regiments with hitherto unknown Territorial designations were formed by transplanting two single-battalion corps from perfectly separate rural districts. This is markedly noticeable in some of the junior Lancashire regiments.

It has been argued that the linking together of two single-battalion corps remedied rather than inflicted a wrong, because the unlinked regiments already possessed two, and in a few cases more than two, battalions. This was true at the time of the re-organization of the Army on a Territorial basis some forty years ago; but the principal harvest of battle honours was reaped in the year 1808-1814, and if to that period we look we may say in the words of Napier: "Never was a more stupid calumny uttered." Between 1662 and 1902 there are over 180¹ battle honours, no fewer than thirty-nine of which were gained in the brief period just mentioned, while seven more date from a very short time before or after it. It may come as a surprise to many to learn that, during that period, of the twenty-six regiments (for I set aside the Guards and Rifle Regiments) which remained unchanged, and gained nothing, by the linking system, no fewer than eight were single-battalion corps: those, namely, which are now called the Queen's Royal West Surrey, the Suffolk, Bedfordshire, Leicestershire, Yorkshire and Cheshire Regiments, with the Somerset Light Infantry and Lancashire Fusiliers. On the other hand, many of the linked battalion regiments were formed of old corps, both of which had two, or even more, battalions embodied during the Peninsular War.²

The component parts of the Essex Regiment, for instance, for a brief space of time had five battalions, and never less than four. Others which had four are now represented by the Cameronians, Gloucesters, East Lancs., Hampshires (for three years only) South Lancs., Black Watch, Oxford and Buckingham Light Infantry, North Lancs., Northhamptons, Manchesters, and Seaforth Highlanders, that is eleven exclusive of the Essex Regiment; while eighteen had three battalions throughout. Of the eleven which remain seven represent two battalions, viz.: the West Riding, Sussex, Sherwood Foresters, West Kent and Wiltshire Regiments with the Munster and Dublin Fusiliers, either because they were formed from two regiments which were single battalions in 1814, or because the regiments forming their second battalions were not then in existence, and for the latter reason the King's Own Yorkshire and the Durham Light Infantry and the North Stafford and Leinster³ regiments represent only one battalion.

¹ It is not easy to be exact. South Africa, 1879, is certainly a different thing to South Africa, 1877: less marked perhaps is the distinction between the first and second years of the contemporaneous Afghan War; but it is, at any rate, absurd to regard an eighteen-year siege (Tangier, 1662-1680) as a single honour. Those rather loose terms "India" and "Hindustan" with their accompanying tigers and elephants can with difficulty be pinned down to definite districts or campaigns.

² See Professor Oman's "Wellington's Army," whose admirable statistics are a perpetual assistance for such an article as this.

³ The battle honour "Niagara," granted to the Royal Canadians, saves this regiment from being regarded as representing *no* battalion in 1814.

The result of this is, as might be expected, clear in the battle honours. Of the eight unfortunate single-battalion *old* regiments only two went to the Peninsula, where they annexed, respectively, eight and seven honours. The other six were wasting away in the Tropics, as likely as not as a reward for having been in better trim than the younger regiments during the earlier stages of the Great War. To apply, as has been done by the badly-brought-up, slighting epithets to regiments which were guarding the outposts or pursuing the Government's policy of small expeditions is as cruelly unfair as it is palpably ill-educated. Those six regiments actually only acquired four honours amongst them during a period extending a few years before and after the actual Peninsular War, yet the work they were doing was necessary for the Empire, and their loss of life was great.

Now take the reverse side of the picture. The Gloucestershire Regiment had at one time *three* battalions serving in the Peninsula together, namely, both battalions of the 28th and the first battalion of the 61st. And these three battalions, within eight months, each picked up a separate battle honour, to wit, Busaco, Barrosa, and Albuhera (I give them in chronological order); a unique achievement, as only three regiments—the 7th Fusiliers, 60th, and Rifle Brigade—possess even two of these honours. Out of their very splendid list of thirty-four honours, the Gloucestershires owe thirteen, counting Corunna, to the Peninsula, three of which are purely 28th and four purely 61st, the remainder being shared in common. Their neighbours both in the Army List and territorially—the Worcestershires—have the curious record that—though both were in Portugal in 1808—the 36th only arrived to fight under Wellington in 1811, a few months before the 29th went home exhausted. Lovers of coincidence may note that the 28th and 29th were distinctly Second Division regiments, while the 36th and 61st were equally Sixth Division regiments, though the 61st had been well to the fore before the Sixth Division came into existence.

The next regiment in sequence, the East Lancashires, is noteworthy for the fact that its present second battalion, the 59th, almost literally took the place of its first battalion, the 30th, in the same brigade; and each is responsible for three honours exclusive of "Peninsula." The Northamptons must be deemed unlucky in that the whole of their honours were gained by the 48th alone, certainly one of the finest regiments in the Peninsula, the 58th not having been present at any actions which the 48th missed; at the Nivelle the 58th earned a special encomium from Wellington. As for the Shropshires, the 53rd, though they seem to have been a pretty rough crowd earlier in the war, have some good performances to their credit, but the 85th flitting out to the Peninsula for two brief visits filled up a couple of useful gaps with "Fuentes d'Onor" and "Nive." In like manner, the honours of the Middlesex are principally 57th, but the 77th, besides sharing "Nive" with the senior battalion, are alone responsible for "Ciudad Rodrigo" and "Badajoz"; and the day may yet come in which the honour "El Bodon" shall also attest the gallantry of the 77th. The Oxon. and Bucks. Light Infantry and the Connaught Rangers, as previously hinted, owe no more than the Northamptons

to the linking system; but the Highland Light Infantry owe a great deal. Of their sixteen Peninsula honours, a number only equalled by the 60th and Rifle Brigade, five are purely 71st, and six are purely 74th; only five, including "Peninsula," are common to the two. Now, though both the 71st and 74th were very fine regiments, and though the 71st (but there is still time to remedy it) have, with the aforesaid 28th, the 39th, 50th, and 92nd been undeniably swindled over "Arroyo dos Molinos," I count the Highland Light Infantry unduly lucky in their 1808-1814 honours. Not because any of them were in the least degree undeserved, but because both 71st and 74th are mutually fortunate in being linked to a regiment which was gleaned honours fast in the richest harvest in the history of the British Army, instead of to some unlucky regiment which was wasting away in the Indies. That even that was not always entirely unprofitable is shown by the records of what are now the Royal Irish Rifles and Royal Irish Fusiliers, whose junior partners picked up an honour or two in the "Filching of Sugar Islands" while the senior partners were accumulating honours in Spain.

It may now be easier to understand why some of the oldest regiments in the Army have such comparatively short lists of honours. Apart from other causes, they had the misfortune to possess two battalions *at the wrong moment*, otherwise the number of permutations and combinations of linking which might have occurred is enormous: a single instance will suffice, that of the 14th and 15th foot, neighbours in the Army List and (now) in territory. The former has twelve battle honours, the latter fourteen, and only two coincide, so that linked together they would have had the eminently respectable total of twenty-four; fully up to the mark of the average linked battalion regiment. Not all the unlinked regiments, of course, are fitting subjects for commiseration in this respect; on the contrary, while several take a good place, four are to be numbered amongst the holders of the finest records in the Army. These are the 1st Foot (Royal Scots), 23rd Royal Welch Fusiliers, 60th, and Rifle Brigade, all Peninsular of course. The 23rd's list is not the longest, but it is unique in its collection of the most coveted honours; no other Minden Regiment was at Albuhera, and only one other Albuhera regiment was at Badajoz. If it had been necessary to link some other regiment, say its neighbours the 22nd from Cheshire, or the 24th from Mid-Wales to "The Welshmen's bold battalion, whom the sun of Albuhera lit to such a field of glory, and to such a field of death," the resulting list of honours would have been startling.

I have described the Peninsular War as the richest harvest for honours in the history of the British Army; that, and the fact that it was the most continuously glorious and in many ways the most interesting war in which that Army took part, must be my excuse for dilating on it. Table I. shows the number of honours gained by certain regiments during that war, with the total number of their honours: it will be seen how much some of the most deservedly famous regiments in the Army owe to having been there. Only those

regiments who owe at least forty-five per cent. of their honours to the Peninsular War are included.

TABLE I.

Regiment (modern designation).	Number of Honours.	
	Peninsular.	Total.
4th Hussars	6	13
14th Hussars	8	15
Northumberland Fusiliers	12	19
Royal Warwickshire	8	16
Royal Fusiliers	10	18
Norfolk	9	20
Devonshire	7	13
Worcestershire	12	22
Border	8	17
Oxfordshire and Buckinghamshire Light Infantry	14	27
Sherwood Foresters	14	25
King's Own Yorkshire Light Infantry	8	16
Middlesex	8	17
Highland Light Infantry	16	32
Royal Irish Rifles	11	17
Connaught Rangers	12	22
Argyll and Sutherland Highlanders	9	20
Rifle Brigade	16	33

Before discussing the other three causes, I should like to say a word about the rider—the tardiness, that is, in recognizing and allotting honours.

Until rather less than forty years ago, for all that could be gleaned from their Colours, the British Army might have sprung into existence during the Seven Years' War. With the break up of the Feudal system, the Army had become a much more Royal affair, and as such was regarded with the greatest jealousy, the Commons refusing more supplies than would keep the barest minimum of a standing army going, as it was looked upon more as an engine of tyranny in the hands of the King than as a defence against the Country's enemies; that part alone being considered with favour which was sent to garrison Ireland or outlying possessions, such as Jamaica or Minorca. In consequence of this many of the regiments which had fought at Tangier, under Dutch William, or in Marlborough's wars must have, although not actually disbanded, shrunk to the merest skeletons, and this may account for the unwillingness of the authorities to grant such honours as "Namur" or "Blenheim" to regiments which in the meantime had almost disappeared, and had then to be created anew. One might doubt if things were in a much better state after the Seven Years' War, seeing the numbers of Hessians, Brunswickers *et hoc genus omne* who had to be crimped during the American War: but the continuity of the Army after the accession of George III. seems to have satisfied those to whom it fell to award honours.

In the seventeenth lustre of the Nineteenth Century, the story goes, there was appointed to a high post at the War Office a distinguished General whose earlier days had been spent in one of those unfortunate old regiments which had missed the Peninsula and had, in consequence, a poor show of honours, and who had long chafed at its effect on the repute of his corps. While pursuing investigations into military history, he discovered that a regiment which bore the same number as his own had indubitably taken an honourable part in the War of the Spanish Succession. Further investigations failed to reveal any obvious reason why these battles should not be inscribed on the Colours of his own and many other regiments, and so "Blenheim," "Ramillies," "Oudenarde," "Malplaquet," as well as "Dettingen," appeared; while to one regiment alone there was allotted "Namur," the honour taking the form of a rather Monkish Latin epigram.

This was a fair start, and an important one, because it gave to the old grey-headed regiments honours which were to the full as glorious as those of the younger regiments which had not been born till many years after the said honours had been gained. Now how was it that such comparatively junior regiments came forward and amassed honours in the later wars of the Eighteenth Century? I think the answer is partly given by the detestable and heartless system in vogue of sending a regiment abroad to one of our Colonies and leaving it there, where it naturally was not available for any expedition that might be afoot unless it were actually on the spot. Thus the 38th were sent out to the West Indies in 1710, and left there for sixty years, and till a few years ago, when they were granted very posthumously the Seven Years' War captures of Guadaloupe and Martinique, they had nothing to show for those years of exile, at the beginning of which they must have been the youngest regiment in the Army. A few years after their return, our troubles in Southern India supervening on those in America and elsewhere, involved the raising of several new regiments—largely, but by no means exclusively, Highlanders—numbered in the Seventies, who were promptly shipped off to that healthy part of the world for a long spell, such honours as "Carnatic" and "Mysore" appearing on their Colours. Of the regiments that possess "Guadaloupe 1759" quite a substantial proportion are numbered in the early Sixties, all brand new and barely raised when the honour was earned; they had, in fact, just been raised as second battalions of existing regiments, and at the peace were dissociated from their first battalions and kept on the establishment with new numbers instead of being disbanded. In this instance the survivors seem to have been more fortunate about getting home than their brethren in the 7—d to 7—th Regiments in Southern India, a quarter of a century later, but both cases are a sufficient proof that new battalions had to be hastily raised for distant expeditions, and both cases show also the good fortune of the new regiments in being despatched to destinations where the results were deemed to justify a battle honour or two, while the older ones were as gallantly, doubtless, or at any rate as necessarily, employed elsewhere.

For about thirty years after the first resuscitation of the 200-year-old honours, there was "nothing special to report." An occasional new

honour like "Surinam" might be unearthed, or an existing fairly Catholic one like "Corunna" might be extended, but on the whole the alterations and additions were small. Then came a great revival: "Tangier" first came into its own, "Namur" was extended to include all the regiments that had been present and not merely one which was deemed to have distinguished itself specially, and the capture of Gibraltar was at last noticed. Quite as far-reaching as any of the above, the exploits of our cavalry in the Seven Years' War and opening scenes of the Revolutionary War at length obtained recognition, and "Warburg," "Beaumont," and "Willems" appeared where they had been earned over a century earlier. The "First of June" and Rodney's Action were added to the list of naval actions awarded to our infantry, and the "Sugar Islands" received more scientific treatment. Students of history will remember that, in the century and a quarter which began in 1689, we spent a good half of the time at war with France, against whom we definitely declared war seven times. Every other war, on a rough computation, we captured the French West India Islands, handing them back at the peace. This should have produced a good crop of honours, but the authorities simply allotted the name of the island, leaving it to one's imagination to guess which capture it referred to; or else discriminated in some inexplicable manner between the various captures, ignoring some and honouring others. The creation or unravelling of these honours revealed the fact that the same regiment had captured the same island on more than one occasion in several cases, the most remarkable one being that of the 15th Foot, who actually helped to capture Martinique no fewer than three times, viz., in 1762, 1794, and 1809.

These are specimens of new honours brought into being: there were others to which it is unnecessary to refer, as I do not propose to analyse the honours list of every regiment in the British Army, but, in addition, as I have said, the scope of the existing honours was widened. One instance will suffice: the First Division in the Peninsula acquired Busaco¹ for five of its units, Fuentes d'Onor¹ for two, and Nive for three, all of them additions which seem to have been well deserved.

One hears very little of the First Division. It was neither more brilliant nor more gallant than the others, but it was, on the whole, steadier and soberer. The Guards and K. G. L. formed its backbone, and Highlanders formed a fair-sized fraction of the various line regiments which from time to time formed part of the Division; and all three classes were, for quite different reasons, able to avoid recruiting up to strength from either the cheerful roisterers or professional criminals which the average line regiment had to contend with. Excellent fellows at a storm or in action, but with a marked tendency to disperse in search of drink and loot immediately the victory was gained, as at Badajos and after Vittoria. The rule was not universal, as both the 71st and 74th Highlanders had some pretty queer fish in their ranks; the latter in particular, which were never in the

¹ In these, as in every instance, I follow the orthography of the pre-War Army Lists as much as possible.

First Division, rivalled or sought to emulate their comrades of the 88th in more senses than one.

The Guards¹ either missed entirely, or were present as little more than spectators at several of the general actions, but they have two

TABLE II.

Regiment.	Pre-Peninsular Honours in		
	1875.	1895.	1915.
Grenadier Guards	1	6	10
Coldstream Guards	2	5	8
Scots Guards	2	3	4
1st Royal Scots	4	8	11
2nd Queen's	1	1	5
3rd Buffs	—	5	6
4th King's Own	—	—	4
5th Northumberland Fusiliers	1	1	2
6th Royal Warwicks	—	—	2
7th Royal Fusiliers	—	—	1
8th King's*	1	6	6
9th Norfolk	—	—	2
10th Lincolnshire	1	5	5
11th Devonshire	—	1	1
12th Suffolk*	4	5	5
13th Somerset L.I.*	1	2	3
14th West Yorks.	1	1	2
15th East Yorks.*	2	6	10
16th Bedfordshire*	—	4	6
17th Leicestershire*	1	1	4
18th Royal Irish*	1	6	6
19th Yorkshire*	—	1	1
20th Lancashire Fusiliers	4	5	5
21st Royal Scots Fusiliers*	—	5	6
22nd Cheshire*	1	1	3
23rd Royal Welch Fusiliers	2	7	8
24th South Wales Borderers	2	6	6
25th K.O.B.'s*	3	3	4
60th Rifles	2	2	5
79th Cameron Highlanders	2	2	2
Rifle Brigade	2	2	2

¹ The 1st Battalion of the Coldstream, and the 1st Battalion of the 3rd, i.e., Scots Guards; the two battalions of the 1st (Grenadier) Guards did not join, as a Brigade, till after the 1812 campaign. Wellington's repeated compliments to the Guards in his General Orders cannot *all* be attributed to snobbery or favouritism. Two cases may be cited. In 1811 he specially excused them from parading at an execution because none of their rank and file had been brought to a General Courtmartial or confined in a public guard, and therefore the force of example was not required by them as a deterrent from bad conduct; a point he always emphasized in connection with military punishments. Again, in the stinging General Order on the slackness of the working parties at the Siege of Burgos, . . . "he is happy to make an exception in favour of the Guards, who, he is informed, have invariably performed this duty, as they have every other in the Army, in the most exemplary manner." (Their conduct at Burgos was referred to on a recent historic occasion.)

very fine performances to their credit, namely, Talavera and Barrosa. It should be noted that at the second of these actions the detachments present, who showed the same steadiness on the field that they were famed for in quarters, were not part of the regular Peninsular Army. When later, and in their proper places, I give instances of Peninsular honours granted only to a portion of the forces present at an action, the evil luck of the Guards Brigade in missing such honours as Ciudad Rodrigo and Salamanca will appear.

I have shown that the omission of the pre-Seven Years' War honours told heavily against certain regiments; they were also affected by some of the later additions. In Table II. I show the pre-Peninsular honours which Army Lists of 1875, 1895, and 1915, respectively, would attribute to the unlinked infantry units.

The eleven regiments marked with an asterisk entirely missed the Peninsular War; and the 10th and 14th Foot very nearly did so; roughly half, in other words, of the twenty-five oldest regiments of the line. The table is of interest not only for that reason, but also because it clearly demonstrates what an absolutely misleading impression must have been given by the original allotment of battle honours.

In deciding which wars should be omitted altogether from the Colours of the regiments engaged in them, the rule seems to be to exclude civil wars and failures. With the first one must agree, though it is doubtful if the rule would have existed if it had not been for the practice of withholding all pre-Seven Years' War honours; for the Horse Guards were hardly likely to have shown more delicacy than the Admiralty. If the Stuart dynasty had triumphed some of our Eighteenth Century wars with France would hardly have been fought, but we should pretty certainly have joined the Coalition against the French Revolution, and would no doubt have included Spain among our enemies when she was base enough to join Republican France. It is rather fascinating to picture the two-decker who led Jervis' line on St. Valentine's Day being called the "Preston Pans," or the three-decker who bore the brunt of the last brush with the Toulon fleet being called the "Sedgemoor." Whether such names would have been in use or not we no longer call battleships "Boyne¹" or "Culloden," and it is a matter for congratulation that these names were never inscribed on our regimental Colours, whence it would have been hard to remove them. The same reasoning cannot be applied to the first American War (1775-1783). The defeated side in the Civil Wars between 1685 and 1746 had not sought *separation*; they fought on points of religion or of the legitimacy of their chosen champion. The West Country peasants, against whom Kirke's Lambs fought at Sedgemoor, were not in arms against *England*, but were contending that a certain agreeable-mannered young follower of the Reformed religion was the legitimate son of the deceased monarch and—as such—was a vastly preferable King to the possibly well-meaning, but undoubtedly stupid and tactless, brother of the defunct. Similarly the

¹ Though, with singular lack of tact and knowledge, a destroyer was called "Boyne" a few years ago; probably by the expert who turned down the suggested names of "Rooke" and "Drake," because it was "not customary to call battleships after birds."

people who got the worst of it at the Boyne, Preston, and Culloden took the view that the last-named gentleman of Romish views, or his son, was a more eminently desirable Head of the State, at any rate for Scotland and Ireland, than the Teutonic importations on whom their opponents put their money. The chief distinction between the two was that the defeated party on the first and third of the latter occasions had the misfortune (or bad taste, according to the point of view) of being in alliance with the French when England was at handgrips with her ancient enemy.

The Americans, on the other hand, or rather the noisy minority who—egged on by Whig traitors at home—feigned to represent Colonial opinion, not only fought for separation, but from July 4th, 1776, proclaimed themselves foreigners, and were glad (and not "too proud") to receive the help of the very nation from whom, a bare twenty years before, they had begged us to protect them; for *their* benefit and at *our* expense. It may be contended that the war was a failure, and of this theatre of the war it is true so to describe it if we look to the final result; but many incidents in the war were highly creditable to the troops engaged, and several nicknames¹ and distinctive badges,¹ date from it. Moreover, we were, at the time, at war, or on the verge of it, with three-quarters of Europe and some very powerful people in India: we held Gibraltar, we held the Carnatic, and Rodney, in three successive years thrashed a Spanish, a Dutch, and a French Admiral; so that we may be pardoned if we *finally* failed in one quarter of the globe.²

No one would wish to see Lincelles, Egmont op Zee, Montevideo, or Abu Klea erased from the Colours of the gallant corps who bear them; but it can hardly be contended that the campaigns, which they commemorate, compare—as successes—any too favourably with the American War. It may be urged that each of the two last-named actions was fought under the ægis of a government which had raised ineptitude in military administration and hesitancy in foreign policy to such a fine art as one may pray will never be seen again, and which may have sought to obscure its crimes by diverting attention to the gallant, though useless and bloody, successes of its troops. Certes it is difficult to see with what object, save with an eye to the impending General Election, the sabre-rattling expedition which brought in its train the honours "Suakin 1885" and "Tofrek" could have been entered upon. Political chicanery apart, though, it is I think the rule in the majority of cases—I have cited four outstanding examples—that successful actions deserve recognition even though the war or campaign, as a whole, be a failure: the total ignoring of all the fighting on the Continent of America between 1775 and 1783 is therefore to be regretted.

¹ The nickname of the 28th (1st Gloucester) and the badge of the 46th (2nd Duke of Cornwall's Light Infantry) are good examples.

² Many Radical historians, *more suo*, not only find that all our enemies were in the right, and we in the wrong, but write as if our arms were universally humiliated, wilfully ignoring the fact that, saving the French in 1794, and ourselves in 1801 and 1807, it would be hard to point to a nation which had *successfully* resisted such tremendous odds as we had against us in 1780. The real wonder is, not that a Division surrendered at Yorktown, but that we retained a square yard of territory outside the United Kingdom.

When actions such as the above are commemorated it is a natural corollary that futilities should be also, in which class may be placed Maida, an extraordinarily successful (and useless) battle gained by a very bad General served by most excellent Brigadiers and troops; and this renders all the more surprising the total suppression of several quite successful affairs. Peterborough's Barcelona campaign and the siege of Gibraltar in 1727 are two of the oldest and best examples; others, such as the Anglo-Sicilian campaign in Eastern Spain, in 1812, and the Suakin expedition of 1884, are concealed under misleading titles, while yet others suffer from the pernicious habit of merely recording one or two leading incidents on the Colours of a limited number of regiments who earned special distinction thereat: and this takes me straight to the third of the causes I have mentioned.

Such wars as are commemorated on our Regimental Colours are recorded in three ways:—

- (A) By the individual actions and sieges.
- (B) By the campaign or war alone.
- (C) By both.

Under (A) may be classed the following:—Namur, Marlborough's Wars, Dettingen, Clive's campaigns, the German actions in the Seven Years' War and the Capture of Havannah, the Low Countries fighting in 1793-4 and 1799, most of the Indian actions of the period as well as the naval actions in which infantry were serving on board as Marines, Maida, Montevideo, Waterloo, Beni Boo Alli, the bulk of the Indian campaigns down to the first Sikh War, the Crimea, part of the Mutiny, the China War of 1859-60, and the re-conquest of the Sudan.

(Under (B):—Tangier, the West Indian fighting from 1759-1810 excluding Havannah, North America 1763-4, a certain amount of the late Eighteenth and early Nineteenth Century fighting in India, including the capture of the islands in the Indian Ocean, every South African war from the capture of the Cape, in 1806, to the Zulu War of 1879, Aden, Arabia, Pegu, the first China War, part of the Mutiny, New Zealand, Abyssinia, Ashantee, Egypt 1884, Burmah, Chitral, and Tirah.

Betwixt and between (A) and (B) come the two Gibaltars, Louisburg, Quebec, and Pekin, 1900, with Canton; some of the West Indian honours, also, are rather borderliners, while on the borderline between (B) and (C) come the Sphinx superscribed "Egypt," Nile, 1884-5, and Suakin, 1885 (a singular coincidence) all of which are campaigns in which a large number of regiments got the general honours, and a very small number got one additional one.

Campaigns which are frankly of class (C) are:—"Peninsula," "Scinde," "Punjaub," "Persia," the Afghanistan wars of 1839 and 1878-80, "Egypt, 1882," and "South Africa, 1899-1902."

The obvious advantage of adding the name of the war as an honour is that it enables a due meed of praise to be given to these regiments which, while never participating in a pitched battle, have done much excellent work in marches, counter-marches, skirmishes, leaguers and

the other highly necessary, but less picturesque, incidents of a campaign. The grossest omission of this class is that of the series of campaigns under Ferdinand of Brunswick during the Seven Years' War. It was a distinctly successful business in which the British Army gained a high reputation, the infantry in particular. How are the latter rewarded? Six regiments get "Minden" and one "Wilhelmsthal," while a dozen cavalry regiments get "Warburg" (only recently awarded), and one gets "Emsdorff." This war should at once be transferred to class (C), and at the same time the work of the infantry at Warburg, and of the Army generally at Vellingshausen and Amoneburg, should be rescued from oblivion.

There is even something to be said for including in class (C) the two Low-Country expeditions of 1793-4 and 1799, although I have condemned them both as failing of their objects. This was partly due to the frightful incompetence of the War Office of the period, whose denizens seem to have thought that a man in a red coat—of a design and cut eminently unsuited for anything except show—and with a musket in his hand, was endowed with perpetual motion; and that it was a work of supererogation to feed him, shoe him, or protect him against the weather, an opinion which, being worked out to its logical conclusion in one of the hardest winters on record, caused the most appalling suffering and loss of life before the Army, or rather the wrecks of it, reached England again in 1795. In part, also, it was due to the very low professional standard of the officers, the staff officers in particular; a state of affairs which had improved enormously by the time of the Peninsular War. The description of our Army at Fontenoy as an "Army of lions led by asses" would have been nearly as applicable fifty years later in the same part of the world. Thirdly, it was undoubtedly due to our subsidised allies, as so often happened, not pulling their weight. This was the case with Russia in 1799, and even more with Prussia and Austria in 1794. These two Powers, who hated each other, having failed to stamp out the revolution at the outset, were fighting with their heads over their shoulders to watch what Russia was doing in Poland; in 1795 Prussia openly threw over her allies, having been, some think, secretly pro-revolution throughout. The services of many regiments who played a creditable part in these two expeditions are still entirely unrecognised.

The principle of awarding the war or campaign as an honour in addition to the individual actions is first properly exemplified by the honour "Peninsula," which was granted in rather a peculiar manner, being reserved for the campaigning which took place after Wellesley's return to Portugal in April, 1809: so that while it was granted to the Anglo-Sicilian adventure in Eastern Spain, whose regiments received it bare, without any additions for the actual affairs, it was not allotted for the Corunna or pre-Corunna fighting. Only two of the regiments which had had a battalion in the Corunna campaign failed entirely to return to the Peninsula—these are the 14th and 81st, of whom the latter is now linked to the 47th, a Peninsular regiment. That the 14th failed to return is not surprising: "Calvert's Entire" were keeping (or trying to) three battalions going on an establishment only equal to that of

a strong two-battalion corps, whereby the emoluments of their Colonel, who was Adjutant-General at the time, were greatly increased: as two battalions were already abroad, there was no chance of resuscitating an exhausted Corunna-Walcheren unit.

"Corunna" itself recalls a striking injustice. The part played by the cavalry in the retreat was glorious, alike to themselves and to their very able Commanding Officer. Two fights of particular note took place, Sahagun and Benevente. The former the 15th Hussars won off their own bat without waiting for the co-operation of the 10th, who were thereby most unluckily robbed of their share in the honour: the latter, as well as the combat of Mayorga, was mainly due to the exertions of the 10th. "Sahagun" has been awarded as an honour, and is borne by the 15th Hussars: Benevente has not; and as the cavalry were debarred from participation in the actual Battle of Corunna the splendid work not only of the 10th, but also of the 7th and 18th Hussars, goes absolutely unnoticed.

The addition of the campaign as an honour can be, and indeed has been, overdone, but another war in which it is emphatically called for is the Mutiny, in which three misleading honours are given for two years' hard fighting. The first of these is "Delhi, 1857," representing the siege on the famous ridge, with all the sorties and skirmishes involved, which is fairly comprehensive. The second, "Lucknow," stands for (1) the first defence, (2) the first relief, (3) the second defence, (4) the second relief, (5) the defence of the Alam Bagh, (6) the final capture with all the fighting the relieving columns were engaged in: six absolutely different affairs of varying merit in more than one of which some of the regiments that bear the honour took part. Lumping the whole together as "Lucknow" is singularly infelicitous. As for "Central India," go to the junction of the Bath and Portsmouth Roads at the top of Sloane Street and study the names on Lord Strathnairn's statue. This is not a history of the Mutiny, but an additional honour, say "Indian Mutiny," should be given to every single regiment which helped to stamp it out, and the existing honours should be re-designed or added to.

It would be difficult to find a more absurd contrast, in this respect, than that of the Mutiny and the "Little War" which immediately preceded it: the Persian Picnic. Remember that most of the Mutiny regiments have to be content with one honour only for months of gruelling fighting in vile conditions, climatic and otherwise: the Persia regiments get *four* honours for a brief campaign in cool, though very rainy, weather against a much more contemptible foe than most of our non-European opponents. I suppose the reason that "Persia," which might easily have covered the whole campaign, was added to the three skirmishes, was that otherwise the 14th Hussars would not have received any honour for landing in the country. No other conceivable reason can be seen, but even so their case would have been infinitely less hard than that of the 10th Hussars in the retreat to Corunna or of the non-Minden infantry regiments in Ferdinand of Brunswick's campaigns. For staggering inconsistency the allotment

of honours for those two wars, neighbours in time and place—Persia and the Mutiny—is unsurpassed. (I should be inclined to regard the three honours of the Scinde campaign as an unduly liberal reward, but the scurvy extrusion of the Cheshire Regiment's exploits in the War of Jenkins' Ear makes me welcome these rather inadequate compensations. It should not be, but unfortunately is, necessary to point out that "Hyderabad" on their Colours is *not* the capital of the Deccan.)

In marked contrast to the treatment, not only of the Persian Picnic, but also of subsequent campaigns in its own part of the world, the recognition of the Suakin Campaign of 1884 may be cited. Students of modern history, and indeed many of my readers not past the prime of life, will remember how after the battle of Tel-el-Kebir, which endowed with two honours every corps in the vicinity, the invading force and the Government it represented not only found evacuation impossible, but also found itself confronted with a new difficulty in the shape of the Mahdist rising in the Sudan, involving—as it did—the immediate danger of the fall of the Egyptian posts on the Red Sea littoral. Instead of sending a British force to the spot at once to put things right, in deference to some amazing non-intervention whim, they allowed—in the same spirit of callous brainlessness in which they afterwards allowed Gordon to go to his death—a force largely composed of new untrained native levies to proceed under Valentine Baker to the scene of action. The saving of Tokar being the primary object, the force, after reaching Suakin, went on by sea to Trinkitat, where it landed, and six miles inland suffered the most extraordinary reverse on record. Four thousand semi-civilised troops, armed with firearms, turned tail on being attacked by less than a third of their number of savages with scarcely a firearm amongst them, and firing their rifles in the air, or throwing them away, were almost exterminated! After this exposition of the beauties of non-intervention the Gladstone Government, having put the cart before the horse, hurriedly put that sagacious animal in the shafts exactly two months too late. (The last two words were applicable to every military achievement of the said Government.)

By that time, of course, the Fuzzies were not only flushed with victory, but were much more numerous and better armed than they would have been if the British Division, which was now dispatched, had been sent there to start with. The first objective was Tokar, and once more Trinkitat Harbour became the scene of landing troops. Tokar, unfortunately, had preferred surrender to being rescued by people it disliked, but in a second Battle of El Teb the Fuzzies learnt that they had a very different enemy to deal with, and were handsomely thrashed. The Light Division in the Peninsula would not be accused of "shyness" by anyone but a lunatic: but they had learnt that the supreme art of war is to put as many as possible of the enemy *hors de combat* at the smallest expense to yourself, and old Light Division officers, like Harry Smith at Aliwal, applied this maxim in after days with the happiest results. One of the units at El Teb acted on the same principle and thereby avoided a large number of useless casualties. To their own and everyone else's surprise, they were publicly censured for this, and in consequence, when they marched out from Suakin a few days

later for their second action at Tamai, they indulged in a bit of old-fashioned foolhardy gallantry with the most evil results, for not only did they incur heavy casualties themselves, but they exposed their next door neighbours, by their action, to even heavier losses, and for a moment endangered the results of the action. The victory of Tamai, for victory it was, was gained at a quite unnecessary cost of lives. The Fuzzies had now had so sharp a lesson, and had lost so many of their best men, that a third sortie from Suakin found no objective but some enemy huts and stores which were effectually destroyed. Having had a successful visit of a few weeks' duration, the Division, after putting Suakin in a state of defence, sailed back to Egypt. Their reward was the date 1884 placed after the "Egypt, 1882," which they had already earned.¹

This sort of honour is utterly misleading, the more so that the scene of the fighting was not Egypt at all. No one would suppose that the force had travelled 750 miles by sea and fought two hard actions against a confident enemy. I do not hold up this expedition as one requiring a large number of honours, but I do assert that it was a tougher business than Persia, and much more successful than the Sudan expeditions of the following winter. "El Teb" and "Tamai" might well be allotted to the regiments engaged instead of the existing demi-honour which is meaningless to those who have learnt a little elementary geography, and barely visible to those whose "wisdom," like Mr. Weller's, "is limited."

The Nile Expedition of 1884-85 most emphatically did not accomplish what it set out to do, which was:—

- (1) To rescue Gordon.
- (2) To "smash the Mahdi."
- (3) (but this an *arrière pensée*) to stop the Mahdi smashing Egypt and to impose a limit on his northward advance.

The last of these was the only one of the objectives achieved, and in consonance with the generally Gilbertian method of rewarding these campaigns it is ignored; the new troops from home, who helped at the skirmish of Ginnis to bring about this satisfactory result getting no honour at all, which is grossly unfair to the Yorkshires and Durhams, who are respectively Infantry "E" and "T" in Table III. In contrast to these, the whole of Wolseley's original expeditionary force get "Nile, 1884-85" (which, except to a very close observer, looks almost as much two honours as "Egypt, 1882, 1884," and four regiments get an extra honour apiece, the nearly bloodless action of Kirbekan ranking equally with the very bloody battle of Abu Klea.²

¹ The 10th Hussars not having formed part of the original force received "Egypt, 1884."

² The percentage of casualties—unequally distributed of course—in the actions between 1882 and 1885 was approximately as follows:—Kassassin, 1½; Tel-el-Kebir, 4; El Teb, 5; Tamai, 5; Abu Klea, 9; Metemmeh, 6; Kirbekan, 3; Tofrek, 8 (mostly Indian); Ginnis, 1.

At Tamai, Abu Klea, and Tofrek the killed nearly equalled the wounded; at the other battles the proportions were more normal. The three first named battles were largely "Cominus" the others "Eminus."

TABLE III.
Distribution of North-East African Battle Honours, 1882-1885.

Cavalry.													Infantry.																				
A	B	C	D	E	F	G	H	A	B	C	D	E	F	G	H	I	K	L	M	N	O	P	Q	R	S	T	V	W	X	Y	Z		
Egypt 1882	2	2	2	2	-	-	2	-	2	2	2	2	-	2	1	1	2	-	1	1	1	2	1	2	1	2	-	2	2	2	2	2	
	Tel-el-Kebir								-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Egypt 1884...	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1	-	1	-	-	-	-	1	-	1	-	
Nile 1884-5	-	-	-	-	-	-	-	-	-	-	1	-	-	1	2	2	2	1	-	1	-	-	-	-	-	-	-	-	1	1	-	-	
Abu Klea	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Kirbekan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Suakin 1885	-	-	-	-	1	-	-	1	1	1	1	-	1	-	-	-	-	-	2	-	1	-	-	-	-	-	-	-	-	-	-	-	-
Tofrek	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Ginnis	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-	0	0	-	-	-	-	0	-	-	-	0	-	-	-	
Total	2	2	2	2	1	1	5	1	3	3	3	3	0	1	3	3	5	1	1	3	2	2	3	1	3	0	2	2	4	3	3	3	

This table shows that of the seven Tamai Regiments, three are exceptionally and three others reasonably well endowed with honours for the three years' fighting; but that is no consolation to the 10th Hussars (Cavalry—F).

As to the Suakin Expedition of 1885, it would be hard to conceive a more hopeless fiasco. It "smashed" neither Osman Digna nor the Mahdi; it made a railway called the Suakin-Berber Railway, which got about a fortieth of the way to Berber, and then picked it up again amid the jeers of the natives; it showed the natives that to be a "friendly" was to be a fool; and finally it cost a great many lives lost through ill health, and about ten times as much money as the expedition of the previous year. Hardly a record to earn a fresh honour for every regiment in the garrison of Suakin and an extra one for those (only one British) that were engaged in the only action in the expedition worth the name. A "successful" action, in which the enemy were "beaten off," after having succeeded in the strategic object of their attack: for the dispersal of McNeill's convoy hampered all the subsequent operations. Why then was it so much more liberally treated than the markedly more successful expedition of 1884? Was it, perchance, because it helped to achieve a far greater result than any of the above. The Government of the day were successful at the polls a few months later.

Tofrek has several points in common with that unrecorded and forgotten action of three-quarters of a century before, the Coa. Neither action should have been fought, but at Tofrek the fault lay with the Commander-in-Chief, at the Coa with the Brigadier,¹ and the blame for the element of surprise present on both occasions must be similarly allocated. On both occasions the partially British Army numbered between 3,000 and 4,000 men, and sustained casualties amounting to from seven to eight per cent. of its total strength. On both occasions they were outnumbered, and a disaster averted by the excellent conduct of the British troops engaged: at the Coa the enemy were both of better quality and far more numerous than at Tofrek; on the other hand, the convoy at Tofrek impeded operations in a manner that was absent at the Coa. After Tofrek the British Army held its ground, but with the almost total destruction of the convoy, which was its reason for being there: after the Coa it proceeded to make the retreat in a perfectly orderly manner, which it should have made without fighting. It was an imprudent and unnecessary, but indubitably glorious, finish to five months' splendid and most useful work: Tofrek was a gallant, but palpably needless, episode in a futile and useless campaign. Taking everything into consideration, the claims of "Coa" are superior to those of "Tofrek," yet the latter was practically worth a brace of honours and the title "Royal" to the Berkshires; while their neighbours north of the Thames, to whom the Coa was merely one of a score of actions equally, if not more, glorious, are not "Royal" to this day.

If I have devoted too much space to these rather insignificant campaigns which centre round a tragedy, my excuse must be that they

¹ Although Crauford was in command of the Light *Division*, Wellington continued to address him as Brig.-General Crauford for a good year longer. The *Division*, too, was only as strong as a good brigade in 1810.

offer a good recent example of War Office inconsistency. The five Sudan campaigns may be briefly analysed as follows :—

- A. *Suakin Expedition*, 1884.—Two distinct general actions tactically successful. Political object of expedition fairly successful. Honours granted: campaign only; requiring a microscope and Mid-Victorian atlas to discover it..
- B. *Nile*, 1884-85.—Three general actions, all tactically successful, one (Abu Klea) strategically so as the desert column continued its march; the other two neutral in results. Political and strategic results of campaign unsuccessful. Honours granted: campaign and two battles, the latter to small fractions of expeditionary force.
- C. *Suakin*, 1885.—One general action, tactically successful (besides skirmishes), strategically a failure. *Local* political and strategic results of expedition completely unsuccessful. Honours granted: campaign and one battle; latter to small fraction of the force.
- D. *Nile-Winter of 1885-86*.—One very bloodless general action. Campaign and action tactically, strategically, and politically successful. Honours granted: nil.
- E. (As a rider.) *Re-conquest of the Sudan*.—Three general actions in which British troops were engaged. Campaign and actions tactically and strategically, and campaign politically completely successful. Honours granted: three general actions.

(To be continued.)



CAVALRY IN OPEN WARFARE, ILLUSTRATED BY THE OPERATIONS LEADING UP TO THE OCCUPATION OF MOSUL IN NOVEMBER, 1918.

Lecture by MAJOR and BREVET LIEUT.-COLONEL C. B. DASHWOOD
STRETTELL, 23rd Cavalry F.F., Brigade Major 10th Cavalry Brigade
E.E.F., and late Brigade Major 7th Cavalry Brigade M.E.F.

[The object of this lecture is to describe the doings of the cavalry, and consequently the action of the infantry is lightly touched on, and is only described so far as to preserve the coherence of the narrative. It is fully recognized that the courage and tenacity shown in their advance is beyond all praise, while it is as fully realized that, as ever, the brunt of the fighting fell on them.]

THE Value of Cavalry.—The value of cavalry in modern warfare, as illustrated by the performances of cavalry in the Great War, 1914-1918, the modifications in tactics imposed by modern invention and the future rôle of this arm of the service, are themes that must be of the deepest interest to all students of the art of war, more especially to those who belong to the mounted branches. It was, I believe, Carlyle who wrote that "The man who substitutes abuse for argument is a fool"; whether it was the great philosopher or not, whoever was the author of the saying laid down the first premises on which any discussion can be based.

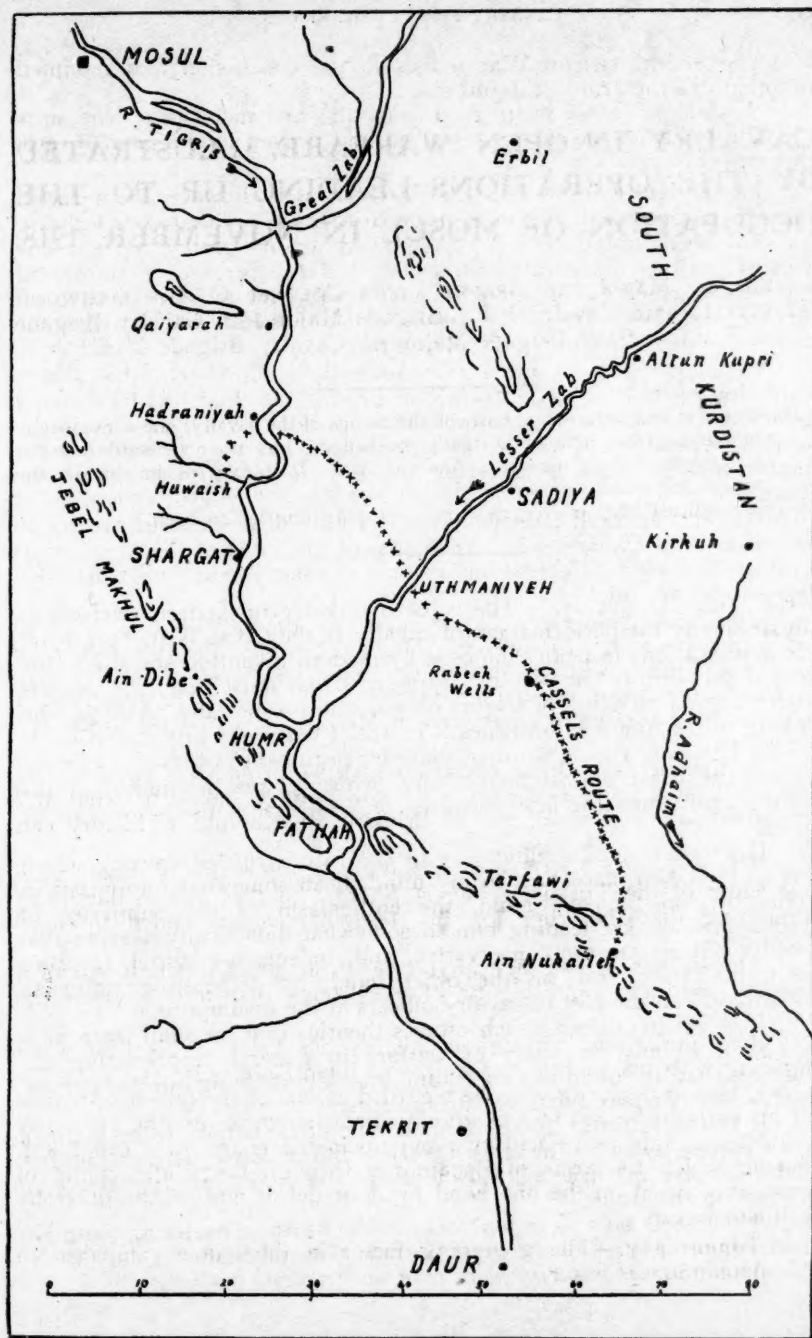
Discussion and argument as to the future rôle of cavalry which has so far taken place has, to my mind, been somewhat minimized in value by, on the one hand, the enthusiasm of the supporter of mechanical warfare leading him to somewhat didactically assume that cavalry officers are too conservative, and, indeed, too stupid, to move with the times, and, on the other hand, by a possibly righteous indignation on the part of cavalry officers at the assumption.

It is not by abusing each other's theories that we shall learn anything; it is only by study of warfare in general, appreciating the changes that invention has made, and logically drawing our deductions, that we can prepare ourselves for the future.

It is characteristic of the British in military affairs to be inclined to be carried away by the latest theories, and in consequence to assume that each war in turn lays down unalterable rules for the science of warfare in the future.

After 1870 only German ideas were worth considering, and we made almost a fetish of the great German General Staff.

After 1897 in India we went mad on "mountain warfare."



The South African War led us to the conclusion that mounted infantry was the arm of the future.

Nowadays we are inclined to draw all our conclusions as regards the late war from the theories evolved and proved in the great theatre in France.

The Ubiquity of the British Forces.—It must, however, be borne in mind as regards the land forces of the British Empire that their fighting has not been, nor ever will be, confined to one special type or one locality, and we must, in consequence, study all types of warfare and all possible theatres of operations, and so adapt modern mechanical devices and the tactics of the various arms of the service as to get the best value out of them in each area in turn.

At the moment no arm is more severely criticized than the cavalry—the long period of static warfare in France has abolished from many minds the memory of the magnificent work done by our cavalry in the retreat from Mons, when, without prejudice, they may be said to have played a large share, by covering our glorious infantry, in saving the Empire.

Again, the result gained by the devotion of the Italian cavalry in the disaster of Caporetto is an example of the value of this arm, while only in the last Red operations against Wrangel the cavalry played a very important rôle.

The critics, however, acknowledge that the cavalry had much to do with the success in Palestine. The magnitude of the operations, the skill and rapidity with which the unprecedented masses of cavalry were handled, the almost astounding success of the advance, have somewhat obscured the successful operations in Mesopotamia that led to the fall of Mosul.

In the success of these operations the two brigades of cavalry were no small factor, and as a study of "how cavalry should be handled" possibly these operations are as brilliant an example as history can find.

The news of the Armistice with Turkey followed so soon after the surrender of the Turkish Army at Shergat that we are in danger of forgetting that the campaign in Mesopotamia was ended by hard fighting.

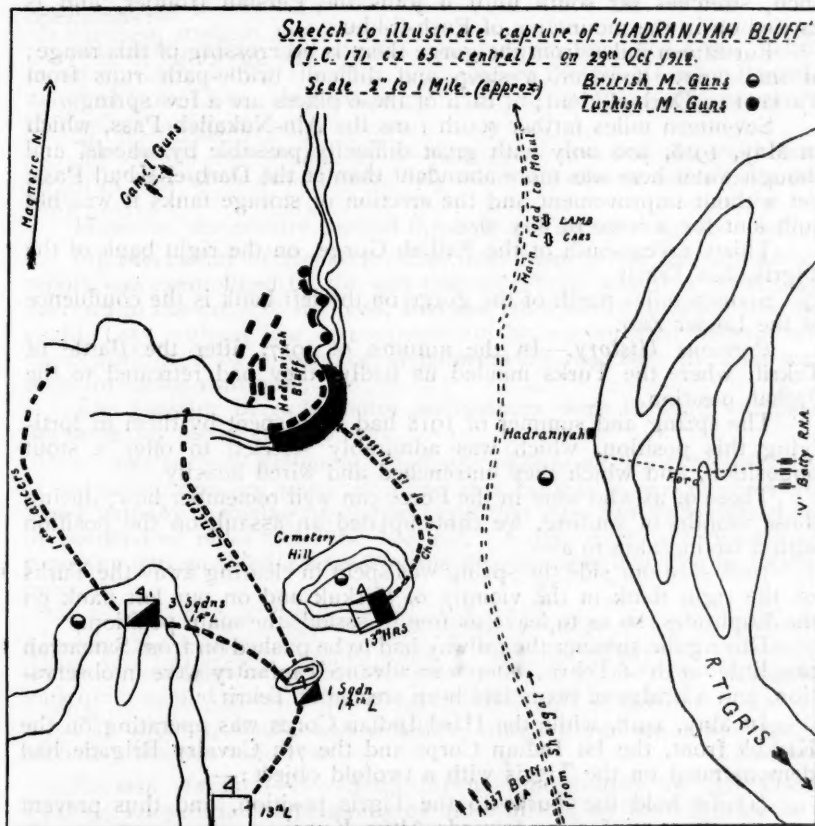
The strategical and tactical success of our arms was only equalled by the endurance and vigour of the troops that took part in the operations.

The Turk, who throughout history has been at his best when fighting with his back to the wall, was intent, not only on saving his army, but on retaining what he regarded as one of the fairest provinces of his empire; he was in a position of great strength, and he put up as stubborn a fight as he had ever put up in the course of a campaign, during which the arms of Britain ran through the whole gamut of emotion, caused on the one hand by dour defeat and on the other by brilliant victory.

Topography.—The governing factor in the whole campaign in Mesopotamia was water.

The Euphrates and Tigris, with their few tributaries, were the vital points to which the defending and attacking armies must cling—for away from the river was death.

As far north as the Fathah Gorge the Tigris route presents only the usual difficulties of all routes in Mesopotamia—the absence of real roads—a little rain and the track becomes a quagmire and movement of wheeled vehicles almost impossible.



At Fathah, for the first time in its course from its mouth to the north, the river breaks through a narrow gorge in a range of hills, which extend in a general direction from north-west to south-east, forming a natural barrier on both banks.

The height of this range is not great, but rising very steeply from the plain with sharp spurs, winding ravines, and rocky sides, a direct advance against it, if held in force, can only be difficult and very costly.

On the right bank it is known as Jebel Makhul, which runs along the immediate flank of the river and road as far as Shargat, and then gradually diminishes in height till it disappears in the plain some forty miles north-west of Fathah Gorge.

The only practicable crossing of this range is at Ain Dibs, the approach to which is across some twenty miles of waterless desert, and the pass over which was strongly fortified and held by the Turks.

On the left bank the range is known as the Jebel Hamrin, and, as such, stretches far south until it joins the Persian frontier, and is carried on in the mountains of Push-ti-khu.

For fifteen miles from the gorge there is no crossing of this range; at this point, however, a steep and difficult bridle-path runs from Tarfawi to Darb-el-khail; at each of these places are a few springs.

Seventeen miles farther south runs the Ain-Nukaileh Pass, which in May, 1918, was only with great difficulty passable by wheels, and though water here was more abundant than at the Darb-el-Khail Pass, yet without improvement and the erection of storage tanks it was not sufficient for a force of any size.

Thirty miles south of the Fathah Gorge, on the right bank of the Tigris, lies Tekrit.

Sixteen miles north of the gorge on the left bank is the confluence of the Lesser Zab.

Previous History.—In the autumn of 1917, after the Battle of Tekrit, where the Turks mauled us badly, they had retreated to the Fathah position.

The spring and summer of 1918 had been spent by them in fortifying this position, which was admirably selected to offer a stout opposition, and which they entrenched and wired heavily.

Those of us who were in the Force can well remember how, during those months of waiting, we contemplated an assault on the position with a feeling akin to awe.

1918.—In our side the spring was spent in clearing away the Turks on the right flank in the vicinity of Kirkuk and on our left flank on the Euphrates, so as to leave us free to assault the main position.

During the summer the railway had to be pushed on from Samarra to a little north of Tekrit, where our advanced infantry were in observation, and a bridge of boats had been erected at Tekrit.

In May, 1918, while the IIIrd Indian Corps was operating on the Kirkuk front, the Ist Indian Corps and the 7th Cavalry Brigade had demonstrated on the Tigris with a twofold object:—

- (1) To hold the Turks to the Tigris position, and thus prevent them reinforcing towards Altun Kupri.
- (2) To reconnoitre the Fathah position, with a view to obtaining information on which to base the plan of operations for the ensuing autumn.

I would point out that during the hot season, on account of the heat, major operations in Mesopotamia were practically at a standstill.

To carry out these reconnaissances the 32nd Lancers (Corps Cavalry), accompanied by armoured cars, reconnoitred up both banks of the Tigris as far as the Fathah position.

The 7th Cavalry Brigade, less the 13th Hussars, but joined later by a Lewis Gun Ford Van Company, seized the Ain-Nukaileh Pass and reconnoitred both along the crest of the Jebel Hamrin, and also round to the north-east of Fathah position left.

While they were doing this pioneers and sappers and miners worked on the road over the pass, making it fit for wheeled transport and improving the water supply.

The following were points worth noticing during these operations :—

(a) *Unreliability of Guides.*—The infantry marched from Tekrit to seize Ain-Nukaileh Pass the night before the 7th Cavalry Brigade marched from Daur. Instead of marching by compass they entrusted themselves to a guide.

The march was carried out in torrents of rain and the guide lost his way, and when dawn broke they were still eleven miles from the hills.

However, the cavalry pushed through and seized the pass.

(b) *Inaccuracy of Reports.*—The inaccuracy of the average patrol report was exemplified by the fact that an officer, who had previously been up to the crest of the pass, told the 7th Cavalry Brigade that he could "say without fear of contradiction by anyone that without ten days' work on it by a battalion of pioneers the road over the pass was unfit for motor transport."

The Cavalry Brigade motor ambulances were through the pass the same day as the cavalry were.

(c) *Difficulty of Estimating Distance when in a Car.*—The difficulty of estimating distance when travelling in a car was shown by the Ford Van Company reporting on one occasion that they had reconnoitred up to twenty-five miles from the bivouac. A few days later when the company accompanied a squadron the distance was found to be eleven miles.

(d) *The Water Supply.*—The water supply was improved in quantity, but it was vile in quality. It was so impregnated with salts that milk could not be used in tea as it curdled at once, while Harrogate took quite second place as regards its effect on the stomach!

The Order of Battle.—In October, 1918, the location of the troops on both sides was as follows :—

Turkish Forces.—The Sixth Army, commanded by Ali Ihsan Pasha. Dispositions and strengths as estimated by the Intelligence: On the Tigris, under command of Haqqi Bey, 8,000 infantry, 300 cavalry, 60-70 guns, mostly 4.5, and field guns. Along the Lesser Zab and at Kirkuk, 2,000 infantry with some guns. Reserves near Mosul, and *en route* from Persia, 6,000-7,000 infantry with some guns.

Turkish Positions.—The first Turkish main position lay astride the Tigris at Fathah.

The second, and equally strong position, was thirteen miles north of the first, and was also astride the Tigris with the right on the Jebel

Makhul and the left on the north bank of the Lesser Zab; the right section was the main section.

These two sections were joined by a bridge of boats over the Tigris.

The Jebel Makhul commanded the whole plain on the left bank of the Tigris, while the north bank of the Lesser Zab is precipitous and commands the southern bank.

British Forces and Concentration Positions.—The 1st Indian Army Corps, with the 7th and 11th Cavalry Brigades (commander, Lieut.-Gen. Sir Alexander Cobbe, V.C., etc. Concentration dispositions: Right bank, 17th Division, under Major-General Leslie; left bank, 18th Division, under Major-General Fanshawe, and 7th Cavalry Brigade, under Brig.-General Norton; in reserve, on the right bank, 11th Cavalry Brigade, under Brig.-General Cassels. A small column under Brig.-General Lewin in the direction of Kirkuk.

Composition of the Cavalry Brigades.—The cavalry brigades were composed as under:—7th Cavalry Brigade, V Battery R.H.A., 13th Hussars, 13th Lancers, 14th Lancers, 16th M.G. Squadron, 7th Field Troop R.E., 11th Cavalry Brigade, W Battery R.H.A., 7th Hussars, Guides Cavalry F.F., 23rd Cavalry F.F., 25th M.G. Squadron, 5th Field Troop S. & M.

The only point notable about the composition of the brigades was that, as the result of experience gained in previous operations, both batteries of horse artillery were armed with 18-pounder guns with teams of eight horses.

Original Plan.—The original plan was for the troops on the left bank to attack and take Fathah left, so as to be able to support, on the succeeding day, the attack of the 17th Division on Fathah right.

After Fathah position had been captured the troops on the left bank were to push on and secure the line of the Lesser Zab.

The 11th Cavalry Brigade was intended to remain in reserve ready to exploit the success by making a wide turning movement on the right bank until they reached the Tigris, and so block the enemy retreat.

With this rôle in view General Cassels made several reconnaissances in armoured cars to endeavour to discover a suitable line for his projected march; however, he came to the conclusion that, owing to complete absence of water, this route was impracticable. Consequently he reconnoitred on the left bank, and discovered a practicable route, and it was therefore decided to employ his brigade on that bank.

He was instructed therefore to cross the Lesser Zab near Sadiya, co-operate with the 7th Cavalry Brigade, and assist them in forcing the position near the confluence, if they required assistance, and then, if possible, ford the Tigris north of Shargat, and thus cut the Turkish line of retreat.

Execution of the Plan.—In accordance with the final plan:—

18th October.—Two infantry columns, marching by night, seized the Darb-el-Khail and Ain Nukaileh Passes, and the sappers at once got to work to improve the water supply at both places.

A supply depôt was formed at Ain-Nukaileh, so as to enable both cavalry brigades to push off from there with their carts full up.

In addition a Ford van supply column was organized to take a day's supply for men and grain for animals for Cassels' brigade, as far as the Lesser Zab.

In the meantime it was discovered that, even with improvement, the water supply at Tarfawi was so scanty that the two springs together would not do more than give one small drink to the animals of the brigade.

On this account arrangements were made for a Ford van convoy to bring water from the Tigris sufficient to fill the water-bottles and to enable one meal to be cooked.

21st October.—At 18.00 hours on 21st October the 7th Cavalry Brigade marched from their camp, on the left bank opposite Tekrit, to Ain-Nukaileh (thirty-five miles); the majority of the brigade reached there at 01.00 hours on the 22nd, and the wheeled transport was up at 07.00 hours.

22nd October.—7th Cavalry Brigade halted and filled up ration carts.

23rd October.—7th Cavalry Brigade, marching in several echelons in order to minimize the difficulty of debouching from the narrow pass, reached Tarfawi, where the brigade halted in two portions, one at each spring, fed and watered, and concentrated at the most forward spring at 18.30 hours.

The arrangements for bringing up water by Ford van to a great extent failed, principally bad driving, but partly the bad road caused the calculations of the Corps "Q" as to the time the journey would take, to be entirely upset—some of the cars took seven hours coming from Ain-Nukaileh, others never arrived at all.

The water supply was in consequence very short, and with the probability of being unable to get water until the Turks were driven from the river the prospect was not pleasant.

That morning the 11th Cavalry Brigade had marched from Tekrit to Ain-Nukaileh.

At 21.00 hours the 7th Cavalry Brigade made a night approach march and reached their position of readiness to the north of the Jebel Hamrin and in rear of Fathah left at 03.30 hours on the 24th.

During the night the Turks retired most skilfully both from Fathah left and right bank, leaving a few men to hold the position to the last, and it was not till dawn broke, and our infantry advanced, that their movement was discovered.

24th October.—On the right bank the 32nd Lancers were pushed on to reconnoitre, while on the left bank the right flank detachment of the 7th Cavalry Brigade (13th Lancers, one section; R.H.A., one section; M.G.) swung on to the river and engaged a retiring column of the enemy on the right bank with their guns.

Then the whole brigade, covered by this detachment, moved north towards the Zab, and patrols pushed forward to discover a crossing.

Only one patrol was successful in getting across; it not only found a ford, but, on being engaged by an enemy party on the far bank, it killed a Turkish artillery captain, brought back six prisoners and excellent information.

At 15.15 hours the brigade reached a position 4,000 yards south of the Zab confluence and engaged dense columns on the far bank of the Tigris with its guns, to which the Turks replied.

Our aeroplanes bombed the retiring enemy.

At 16.30 hours the brigade gradually withdrew to bivouac on the Tigris bank.

The leading regiments had barely got into bivouac when it was shelled, and had to shift. As darkness had fallen, considerable confusion occurred, and the 13th Hussars, who had been rear-guard, were unable to find the bivouac, and spent the night in the desert.

The 11th Cavalry Brigade moved off from Ain-Nukaileh at 02.00 hours; after going twelve miles they watered at water holes, and then proceeded on their way.

At 08.00 hours an aeroplane dropped a message that Fathah had been abandoned by the enemy, and also that the Lesser Zab appeared unoccupied.

In consequence of this news Cassels decided to move to Uthmaniyeh, and thus shorten his journey. The plane moving ahead of him was put out of action on landing by being fired on.

At 15.00 hours the advance guard (7th Hussars, one section; R.H.A., one section; M.G.S. and Field Troop) came up, and were fired on by four guns.

After reconnaissance the 7th Hussars and the M.G. Squadron, having found a crossing below the enemy position, established a bridge-head on the farther bank.

The remainder of the brigade arrived at 21.00 hours.

During the night the Turks retired to join their force at the Tigris and Zab confluence.

This brigade during the day had marched over forty-five miles, and forced a crossing against opposition estimated at 800 infantry and four guns. As this followed their march of thirty-five miles on the previous day it was a good performance.

In the meantime the infantry on the right bank had regained touch with the enemy, but the heavy artillery had not been able to get along the bad road; on the left bank they pushed on and bivouacked alongside the 7th Cavalry Brigade.

Lewin had arrived within ten miles of Kirkuk.

During the day, under the cover of the infantry advance on both banks, a bridge of boats had been thrown over the Tigris at Fathah Gorge, thus considerably shortening the line of supply to troops on the left bank of the Tigris.

25th October.—At 05.00 hours an advanced detachment (13th Lancers and one section M.G.) moved ahead to force the crossing of the Zab. The remainder of the 7th Cavalry Brigade followed in support, and the 53rd Infantry Brigade behind them.

The advanced detachment acted with great dash, and, despite opposition, by 07.15 hours the 1st Squadron was across, and by 11.10 hours all the fighting troops were on the north bank.

The enemy, covered by their guns from the other bank, withdrew across the Tigris by the pontoon bridge, which was then destroyed.

The brigade was heavily and accurately shelled while crossing the Zab, and suffered several casualties—the water was in places girth deep and the current strong—but despite the shelling everyone was glad to water after having been some thirteen to seventeen hours without it.

A Fruitless Chase.—The 13th and 14th Lancers were pushed forward to reconnoitre to the north.

At 12.00 hours an aeroplane reported about one thousand Turks were five miles to the north.

The 13th Hussars and Machine Gun Squadron, led by the General, moved as fast as possible in that direction, encouraged at intervals by messages being dropped from the plane that they were gaining fast.

After trotting for over an hour without stopping the General realized that he was on a wild goose chase, when he saw the plane machine gun his advance guard squadron, and the force halted, somewhat disgusted, opposite Qalah Shergat.

As the brigadier had orders to return to the Zab, he swept to the south, gathering a hundred scattered prisoners, and reached the river at dusk.

The 13th Lancers had preceded the brigade and gone into bivouac, but had again been shelled out of it, and crossed the river, taking with them the wireless.

It was too dark to get into communication, and too dangerous to ford in the dark, so the brigade "dossed down" on the north bank and spent the night, not knowing the result of the fighting or their orders for the morrow.

The 11th Cavalry Brigade spent the day crossing the Zab, and filled up their ration carts from the van convoy from Ain Nukaileh, which reached them after dark.

General Cassels himself, having succeeded in getting an armoured car across with the utmost difficulty, came down stream, and had an interview with General Norton.

In the meantime the 17th Division had pressed forward all day. Shortly after nightfall the H.L.I. encountered the Turks strongly entrenched behind wire. Against heavy rifle and machine-gun fire they assaulted in the dark, and, despite very severe losses, they drove the enemy out and held the captured positions against several determined attacks during the night.

On the left bank the 53rd Brigade had crossed the Zab near the confluence.

The 54th Brigade, six miles farther south, had assisted the advance of the 17th Division by fire from its guns. They had, however, a rough time from the Turk gunners, who with excellent observation from the crest of the Jebel Makhul, made very good practice, and put one of our batteries completely out of action.

Lewin had pushed the Turks out of Kirkuk, and the latter were in retreat towards Altun Kupri.

26th October.—Early in the morning the news was received of the severe losses of the 17th Division, and information given that the advance up the left bank was to be postponed, while the 18th Division from that bank assisted the advance of the other division by co-operating as far as possible with gun and machine-gun fire.

The 7th Cavalry Brigade swept the country some ten miles to the north of the Zab, co-operating with their guns against the enemy on the right bank, and by their manœuvres covering the advance of Cassels' brigade to the north.

At nightfall they returned to the Zab, this retrograde move being necessary in order to meet their supply carts, as all rations, including emergency, had been consumed at midday.

Just as this brigade was reaching bivouac an aeroplane dropped a message on them, addressed 11th Cavalry Brigade.

From this it was learnt that the 17th Division had experienced a serious reverse, and that its advance was entirely held up.

The message continued that "one brigade of the 18th Division was to be transferred to the other bank to assist the 17th Division; that the 7th Cavalry Brigade, instead of, as previously intended, marching to join Cassels, was to be withdrawn to Fathah, and to cross the river and be ready for use as a mobile reserve."

Cassels was told he must hold on as best he could.

The message was sent at once to 18th Division for transmission to Cassels by wireless if possible.

The receipt of this message was, from the 7th Brigade point of view, fortunate, as, instead of bivouacking north of the Zab, they crossed the river, so as to be ready to move back when their orders were received.

From Cassels' point of view the mistake in dropping the message on the wrong brigade might have been serious.

On reaching the farther bank of the Zab the supply carts were met, and the 7th Brigade filled up their rations.

Cassels had moved off at 06.00 hours, and after covering some thirty odd miles arrived opposite Huwaish at 13.00 hours. After some reconnaissance a local Arab indicated a practicable ford.

At this spot the river was in three branches, of which that on the farther side was nearly five feet deep, with a swift current but a good bottom.

In addition to the depth and current the ford was peculiarly dangerous, as the footway was very narrow and could only be crossed in half sections; it was V-shaped, and so deep on the down-stream side that anyone unfortunate enough to be swept off was certain to be drowned.

However, by 16.30 hours the Guides were across and galloped to seize the fine natural position at Huwaish Nullah; by 18.30 they were joined by the 23rd and the section machine gun squadron, while the remainder bivouacked on the left bank.

At 21.00 hours Cassels reported the situation by wireless. Up till then, owing to the aeroplane message having gone astray, he had had no news of the reverse to the 17th Division, or that the 7th Cavalry Brigade, whom he was expecting next morning, had been ordered back to Fathah.

At 03.00 hours next morning he received a belated message, timed at 17.45 hours on the 26th, to the effect that "The 17th Division were held up, and that it was reported that the Turks in the Shargat area had been reinforced."

He was not informed that the 7th Cavalry Brigade were not arriving until a message to that effect was dropped on him at 07.45 hours on the 27th.

During the night the 7th Brigade received their expected orders, with the addition that, as the confluence of the Zab and Tigris was commanded by the enemy guns, the rear of their column must be well south of that by daylight.

27th October.—The 7th Cavalry Brigade moved off at 03.00 hours and reached Fathah Gorge at 08.00 hours, some eighteen miles, of which the last four had been very bad going over deep sand and steep nullah banks, tiring for all, especially the gun teams.

By this time the High Command had taken fresh stock of the situation, and orders were received not to cross the Tigris, but to halt, feed, and rest.

The Corps Commander came up river on a "scooter" and interviewed General Norton at 16.30 hours, telling him that as the Turks were withdrawing, the situation had improved, and in consequence the brigade was to march at 01.00 hours, when the moon rose, back to Cassels' assistance.

Early in the morning Cassels had pushed the 23rd forward towards Shargat, and they had joined hands with the L.A.M.B. cars, who, making a wide detour, had come round the Turkish flank.

The remainder of the brigade crossed the river and moved to Huwaish.

Confirmation of the Turks' retirement towards Shargat was received and, in the meantime, a patrol of the 7th Hussars, which had been sent to the north, reported Turks' reinforcements, estimated at four hundred, were moving down from Mosul.

A squadron of the 7th Hussars was despatched to delay them.

The 23rd Cavalry, less one squadron, were ordered to make a dismounted attack on the ridge held by the Turks 1,000 yards to the south, under cover of W Battery's fire.

The attack was successful, and the ridge taken.

The Turks, however, counter-attacked from a flank, and gradually drove the regiment back. As their attack proceeded it was estimated that the enemy consisted of over 1,000 infantry and four guns [afterwards confirmed by the Turks' commander], so the regiment was withdrawn to its original position, having lost five B.O.'s and fifty men.

In the interim a ferry across the Tigris had been erected and got into working order, and 18-pounder ammunition brought across, while green fodder from the standing crops was cut for the horses.

During the afternoon a brigade of the 18th Division and a battery came up on the left bank, while Cassells received by wireless the welcome news that the 7th Cavalry Brigade was returning to his assistance.

During the 27th the infantry on the right bank had been desperately attempting to maintain effective touch.

Progress was slow, principally owing to the difficulty of the terrain, but also because the troops were very exhausted after four days' continuous fighting on half rations and practically no water.

28th October.—When day broke Cassells' position was serious; from the south the whole weight of the Turkish army threatened to overwhelm him, while fresh reinforcements from the north were taking him in rear.

07.00 hours: the Turks advanced from two miles to the south, on a 700-yard front, with their right resting on the river. Meanwhile the squadron 7th Hussars who were detached to the north, reported that the enemy were working round their left flank. Two L.A.M.B. cars were sent to their assistance.

07.20 hours twenty-four guns opened to cover the Turks' advance, but the latter was slow, principally due to the extremely well directed fire of W Battery, assisted by the guns of the 18th Division, from the farther bank, who directed their fire on the burst of the R.H.A. shells.

Cassells moved the 7th Hussars out to the left of the enemy advance, and having moved out unobserved, they delivered a very gallant counter-attack; the enemy advance was in consequence of this entirely checked.

This counter-attack was a stroke of genius.

However, the 7th Hussars were gradually driven in on the main body, which they rejoined, having suffered ninety casualties out of a total strength of about 250.

11.00 hours: the Turkish advance recommenced, and large columns were seen moving round Cassells' right. The 23rd were brought up to extend the right, refusing that flank, and to get into touch with the squadron 7th Hussars to the north.

To do this they were strung out over two miles of country, with their position along a ridge, and a precipice behind them. The line was ominously thin.

Owing to some mistake as to the localities of the ford and ferry, which were a mile apart, the advance infantry battalion of the 18th Division, who were up at 08.00 hours, did not cross until 14.00 hours, when one company 7th Gurkhas came over the ferry.

They were so exhausted, however, by their forced march that they could only be put in reserve, but this admitted of two squadrons of the Guides being sent to the assistance of the hard-pressed Hussar squadron to the north; the remainder of the 7th Gurkhas crossed during the afternoon.

The 7th Cavalry Brigade Arrive.—At 16.00 hours the 7th Cavalry Brigade came up. This brigade had marched forty-five miles since 01.00 hours that morning, including the crossing of the Zab.

In the last thirty-four hours they had covered over sixty miles, including some twenty-seven miles in the dark.

As the writer of the account of the operations issued by the Government Press at Delhi says: "In a week of long and rapid marching, both by the cavalry and infantry, this performance stands out."

The brigade marched to the ford and commenced crossing while the General and Brigade Major crossed by the ferry and motored to Cassels' headquarters, having a pleasant ride through a shower of M.G. bullets, which were the "overs" fired at Cassels' "O.P."

18.00 hours: the whole brigade was across, except V Battery and its escort, who had just come up—a notable march for 18-pounders—and they bivouacked on the left bank.

Crossing as the brigade did in the fast falling dusk was a dangerous manœuvre, and proved a costly one, as twenty-five men were drowned.

The detached squadron 7th Hussars and Guides having retired on to Cassels' right, they were relieved by the 13th Lancers from the 7th Brigade, the remainder of which bivouacked by the river.

During the night continuous artillery fire was kept up, but the Turks did not come to grips. An ambulance with 200 men, mostly wounded, was captured by the 13th Lancers as they tried to pass round our front.

The Infantry.—During the 28th the 17th Division had some desperate fighting, and drove the Turks back. Extreme exhaustion had prevented the pursuit being pressed home, but spurred on by the news of danger of Cassels being crushed, after a short rest, as the moon rose, at 01.45 hours on the 29th the 17th Division moved forward again to meet the Turks, in what was to be the last great encounter of the campaign.

29th October.—At dawn the 39th Garhwalis and two field batteries crossed and joined Cassels, on whom the pressure was now relieved. The infantry took over his line, and the weary troops of the 11th Cavalry Brigade withdrew to reserve.

At 08.00 hours Cassels was informed that the advanced troops of the 17th Division had reached a point five miles to his south.

Turning to the 7th Cavalry Brigade: at dawn a squadron of the 13th Lancers, sent to reconnoitre the enemy to the north, had barely moved into the open when it was heavily fired on from a bluff 3,500 yards from the 13th Lancers picquets.

The Terrain.—At this point it will be well to describe the terrain over which the ensuing action of "Hadraniyeh" was fought.

On the east ran the River Tigris, with banks some twenty feet high. From the right bank towards the west at this point is an alluvial plain, partially covered by crops—a mile wide and flat and good going.

At the edge of this plain rises a long ridge—possibly the ancient banks of the river—in most places very steep, and culminating at this point in a steep bluff some 120 feet high, which was the corner of a deep re-entrant.

On the crest of this bluff, along the re-entrant, and also the ridge to the north, lay the Turk shelter trenches, their reserves well hidden in deep-cut nullahs in the rear.

On the south side of the re-entrant, some 900 yards distant from the bluff, lay an outcropping hill known to us as "Cemetery Hill," from a Mohammedan graveyard on its crest, and joined to the slopes of the main ridge, which continued to the south by a low col.

The bluff on which the enemy were was considerably higher than Cemetery Hill or the slopes of the southern side of the re-entrant, and entirely commanded our position.

The squadron of the 13th Lancers on being fired on made good Cemetery Hill.

The escort of the battery attempted to cross the ford, but were heavily shelled, and only on the enemy guns being silenced were they able to get across and rejoin the 13th Hussars, leaving the R.H.A. battery on the far bank, from which it fought the action.

At 08.15 hours the 13th Hussars and one section M.G. emerged from their cover beneath the bank of the river and attempted to gallop the enemy position.

They were met by heavy rifle and machine-gun fire, and the regiment collected under cover of Cemetery Hill, having lost the leading squadron leader and several men wounded.

The 14th Lancers then galloped from the cover of the river bank and prolonged our line to the left.

10.00 hours: A 357 Battery R.F.A. was sent to assist the brigade, and came into action 2,000 yards south of Cemetery Hill. As they did so the enemy guns reopened, but were silenced by the fire of both the batteries.

11.35 hours: the Turks advanced to attack, but were driven back by gun fire.

11.50: a heavy bombardment was opened with the idea of covering a mounted attack, but this disclosed several more machine guns, who replied to our fire, and the attack was postponed.

The position of the brigade was precarious; it was practically pinned to the ground it was on, while experience had shown that the enemy were in considerably greater force than estimated up till then.

In addition to being numerous, they were obviously in possession of guns and amply provided with machine guns.

Rumours of further reinforcements from the north were in the air.

It was all-important to prevent the Turks moving round our left flank and reinforcing those against Cassels, consequently the 14th Lancers were moved farther west, and the 13th Lancers brought into the gap between them and Cemetery Hill, the latter being held by one squadron 13th Hussars and two sections Machine Gun Squadron.

12.55 hours: the General decided on a fresh attempt to assault the enemy position, and ordered a heavy bombardment to take place preliminary to the assault timed for 13.20 hours.

At 13.20 hours the 13th Hussars advanced at the gallop in column of squadrons under a heavy barrage from our guns. Half-way across the plain a broad ditch, hitherto hidden from view, appeared likely to give trouble, but with no hesitation the men scrambled across or jumped it.

The Turkish fire increased in volume and the bullets raised a cloud of dust, but stupefied by the high explosive shells and deterred by the effect of the advancing horsemen, the enemy failed to put down a barrage, and their individual and badly-controlled fire was so ineffective that the Hussars reached the dead ground at the foot of the bluff with only a few horses hit.

The men dismounted and fixed bayonets, and, with their colonel still at their head, swarmed up the steep slopes.

One troop on the edge of the bluff was enfiladed by the enemy in the re-entrant, but the others, covered by the barrage, reached the crest almost without loss, while the enemy, dazed by the shell fire, dare not come out of their trenches.

With loud cheers the Hussars closed, the barrage lifted to the rear, while the Hussars pressed on, using rifle and bayonet.

The 13th and 14th Lancers were signalled to mount and ride up the slopes of the re-entrant.

The enemy counter-attacked, but the Hussars were not to be denied, and, despoiling the pennons of the advancing Lancers on their flanks, and coming round their rear, the Turks surrendered.

The result of this brilliant action was the capture of 25 officers, 892 men of the 13th Regiment, 108 animals, 2 camel guns and 12 machine guns, while nearly 100 dead bodies were counted on the hill.

The lightness of our casualty list, which was only eighteen, was due to three factors:—

(a) The accuracy of the brigadier's judgment in recognizing the value of the dead ground and the determination he showed in carrying out his plan.

(b) The boldness and dash of the attack.

(c) The accuracy of the gun fire, which was perfect.

It is noteworthy, when the captures are considered, that at 12.00 hours a message had been received from General Cassels that he had been informed by an air reconnaissance that the enemy opposing the 7th Brigade consisted of about 100 men.

After the Action.—The L.A.M.B. cars were despatched to reconnoitre north, while the brigade swung round and took up a position facing south, to prolong Cassels' line against the retreating Turkish main forces.

Infantry.—During the day the infantry had driven the Turks to two miles north of Shargat.

11.00 hours: Cassels having been warned to co-operate, a determined advance was commenced. At 16.00 hours we assaulted the main position, but were checked. The Turks then made a vigorous counter-attack, driving back the 14th Sikhs, and being barely held by the remainder of that brigade.

The 114th Mahrattas made a brilliant counter-attack on the enemy's flank, and he withdrew, leaving us to follow up and dig in on the slopes of his position, which trenches were held against repeated assaults.

The severity of the fighting is shown by the fact that though the artillery on both sides was under normal proportions, yet we suffered over 500 casualties in a force of 3,000 engaged in this vicinity.

30th October.—At daybreak Cassels was informed that the 17th Division would not be ready to continue the attack till noon.

He moved the 7th Cavalry Brigade forward till they reached the western end of the Huwaish Nullah, when news was received that Haqqi Bey, seeing that his retreat was effectively barred, and realizing that his men were worn out by continuous fighting and lack of food and water, had surrendered.

The 7th Brigade were ordered to face about and move north for ten miles, and deal with any further enemy reinforcements.

They advanced in that direction, preceded by the L.A.M.B. cars.

13.10 hours: L.A.M.B. cars reported enemy, estimated 500, with two guns, to be a few miles south of Qaiyarah.

14.45 hours: the enemy were sighted on a ridge covering the river, and opened with their guns. V Battery silenced these, and the Turks retired towards a crossing of the Tigris known to exist near Qaiyarah.

In the meantime more enemy were sighted on a high ridge to the west of the serai at Qaiyarah.

The 13th Lancers were despatched to clear up the situation in this direction.

The remainder of the brigade, pivoting on the guns, trotted wide past the enemy with the intention of cutting him off from the ford.

The leading squadron was under the command of Major Bromilow, D.S.O., 14th Lancers. As he neared the crops on the river bank heavy fire opened at 500 yards range. He at once "charged," and killed and wounded many of the enemy. His losses were one man severely wounded and twenty-nine horses.

A moment's hesitation on his part would have meant that the squadron would have been wiped out.

The leading squadron was closely followed by the remainder of the regiment, and they captured 300 infantry and 10 machine guns and 2 camel guns.

In the meantime the 13th Lancers had captured the oil works at Qaiyarah, the serai full of foodstuffs, and a paddle steamer, and then, seeing a convoy some miles ahead, pursued after it at full gallop.

The brigade went into bivouac at Qaiyarah, and awaited the 13th Lancers, who returned after dark with 30 wagons and 1,000 prisoners of the 14th Regiment.

The captured serai was invaluable, as the food in it entirely rationed the brigade.

31st October.—The 7th Brigade halted, despatched prisoners to the rear, and re-organized, pending further orders to advance to Mosul, and the 11th Cavalry Brigade came up.

1st November.—The two brigades marched for Mosul, but while on the march were informed of the Armistice by a message dropped from an aeroplane, and shortly after this the Turkish delegates came through in a car carrying a flag of truce.

The subsequent occupation of Mosul and the evacuation by the enemy troops is beyond the scope of this lecture.

Captures.—The total prisoners and material captured by the 7th Cavalry Brigade in these two days were 2,270 prisoners, 4 guns, 22 machine guns.

Three thousand five hundred men in front of Cassels surrendered to him, and the main body of 5,000 under Haqqi Bey surrendered to the 17th Division.

Total, 11,000 prisoners, 50 guns.

Criticism.—The following points as regards the operations appear worthy of consideration.

Turkish Appreciation of Situation Incorrect.—Haqqi Bey informed us that he had anticipated that our main attack was to be on the right bank, combined with a turning movement on that bank.

The incorrectness of the latter portion of this appreciation was doubtless due to our numerous reconnaissances in that direction, but he should have been warned that operations of some size were intended on the left bank by the establishment of our dump at Ain-Nukaileh.

Turkish Errors.—The immediate retirement from the Fathah position was a fundamental error. Even if unable to hold both banks, the Turks should have retained Fathah right, which commanded the left position, and allowed us to waste our strength in an attack on this immensely strong position; they then could have retired to Humr while we were licking our wounds.

Ali Ihsan's orders were "to retire slowly, gaining time." These orders probably influenced Haqqi Bey into ordering the abandonment of Fathah, but he in this case followed the letter and not the spirit of his orders.

Until we took Fathah we could not bridge the gorge; without this bridge we could not possibly have maintained the supply of the 18th Division and two cavalry brigades on the left bank, as the route via Ain-Nukaileh could, on account of its length, only be utilized for the first two days' operations.

Hence the abandonment of Fathah was a strong factor in the success of the cavalry encirclement.

The determined stand at Humr was too prolonged, and permitted the 7th Cavalry Brigade and the infantry to get up and join Cassels.

Suggested Best Line of Action.—The best line of action for the Turks was to have fought at each position, and then retired rapidly to the next.

Having realized that his line of retreat was cut by Cassels, the argument for rapid retirement after each fight is strengthened, except that, under the new circumstances, the Turks should have left a strong rear-guard to delay us, and turned the majority of the force against Cassels and crushed him. With one weak brigade Cassels could not have hoped to resist.

Haqqi Bey, doubtless led astray by the severe blows he was dealing the 17th Division, halted between two opinions, tried to fight in both directions, and was lost.

It is interesting to note that the Turkish commander, deceived by the manœuvring of the 7th Cavalry Brigade on the left bank, was under the impression that they had joined Cassels, and that he, therefore, had two brigades; he acknowledged that this inference was strengthened by the boldness of Cassels' dismounted attacks.

The enemy planes did nothing, and Haqqi Bey had apparently no communication with Mosul.

If he had known that the 13th and 14th Regiments were close it would possibly have influenced him to retire more rapidly, so as to concentrate with them.

If he had retired beyond Huwaish he had two magnificent positions at Qaiyarah and Hammam Ali.

Without great delay in reorganizing our supply arrangements we could not have assaulted these positions, and a couple of days gained would have saved the Turkish Army.

The attempt at reinforcement by the 13th and 14th Regiments was a magnificent effort.

They had marched for over six weeks from Northern Persia, and were only forty-eight hours too late.

The Turks fought stoutly all through, despite the fact that they were short of rations and suffering greatly from lack of water; even with the threat of their retirement they kept their courage up till the very end.

The toughness of their infantry was equalled by the excellence of their gunnery.

Turning to our own side:—

Criticism of Our Plan.—The lengthy encircling march of Cassels' brigade, brilliantly though it was carried out, is open to criticism.

If the Turks had held us up at Fathah Cassels could not have been fed or reinforced, and could have been crushed by being taken in detail.

As was said above, his success was mainly due to his boldness in pressing counter-attacks, but, if the Turks had been properly handled, he must have been wiped out.

It would have appeared to have been tactically sounder to hold Cassels in reserve until Fathah was taken and the Tigris bridged, and then pushed him through to Huwaish with fresh troops, and reinforced him by the 7th Cavalry Brigade.

Action as thus suggested would have cut the troops at Uthmaniyeh off, and driven them towards Altun Kupri, instead of driving them back on the Turkish main force.

The withdrawal of the 7th Cavalry Brigade to Fathah on account of the reverse to the 17th Division, leaving Cassels in the air, is open to severe criticism.

Our intelligence appeared to depend too much on spies and agents, and the news brought in of Turkish movements and dispositions was strongly favoured with Turkish intention—a galaxy of spies would appear to be detrimental to good information.

18-Pounders for R.H.A.—The soundness of arming the R.H.A. with 18-pounders was proved beyond all doubt; they were always able to keep up, or be up where required, and it is not too much to say that if they had been armed with 13-pounders the cavalry operations would not have succeeded.

Co-operation with and by the R.A.F.—Several points as regards air co-operation appear to be worth consideration.

(a) In open warfare, unless there is a superfluity of machines, what cavalry want is information, and the tendency to devote attention to bombing is principally wasted time.

(b) It is essential that air officers should be trained to work in peace time with cavalry, so as to recognize their formation and tactics.

(c) Air officers should be given the fullest and latest information as regards the location of our troops.

It might appear that the above remarks are almost puerile, but on the operations in question their importance was self-evident.

(d) Air information, however excellent and however gallantly gained, must be confirmed by cavalry.

The Future.—As regards the future, judged from the past, there would appear no evidence to confirm the oft-quoted statement regarding the "obsolescence of cavalry."

Throughout all history cavalry, more than any other arm, has depended for its success on the character and skill of its leader.

The fact that with invention weapons become more deadly, and that consequently cavalry will be unable to hold its own, is against all the teaching of history.

Our bowmen at Agincourt appeared to have set the seal on the future of cavalry, yet Cromwell taught Europe that they were more than a great factor in battle; and in Napoleon's time, when weapons of destruction were infinitely more accurate, still Murat and Kellerman led their squadrons to victory.

In the past cavalrymen have adapted their ideas and worried through, and here we see in the latest phases of the war our cavalry playing a great part, led, as they were, by the right men in the right place.

The Tank.—There is no doubt a certainty that the tank will play an ever-increasing part in war in the future, but it would not appear thereby to abolish cavalry from the field, but rather by their increasing power add to the efficiency of our cavalry, possibly taking the place of our artillery, doing away with our animal transport, and stiffening our power of attack and resistance; but, at any rate, till armies move entirely in tanks, there seems no reason to anticipate that the rôles of the patrol leader and his men, the rapid passage across country and rivers, the sudden charge, can ever be entirely absorbed by this new monster of war.

As regards the operations described, tanks in the stage they have reached at present could not, I believe, have carried out the rôle that the cavalry did.

THE SOLDIER'S PILLAR OF FIRE BY NIGHT.

THE NEED FOR A FRAMEWORK OF TACTICS.

By CAPTAIN B. H. LIDDELL HART, A.E.C.

SCENE.—A tactical exercise without troops. Syndicates, composed of captains and subalterns with a sprinkling of field officers, are giving their solutions. The general idea is that a Scottish Army is following up a retiring English Army. The special idea deals with the action of a brigade group of the Scottish Army. The situation for which a solution is required is the action of the commander of the advanced guard to the brigade group on receiving word that the vanguard is held up by rifle and machine-gun fire from a small wooded hill, with an exposed glacis in front, on the line of advance. The advanced guard includes one battalion and a battery of field artillery, the vanguard consists of one company of infantry.

After a brief personal reconnaissance, the solutions are rendered. One syndicate suggests sending two companies to turn the enemy's left flank and one to turn his right, the suggested lines of approach for the companies being so far apart that mutual support and co-ordination would be impossible. A second syndicate contemplates reinforcing the vanguard with one company and sending each of the remaining two companies round a different flank. Thus they would simply increase the casualties of the troops who are held up and render both the turning movements too weak to be decisive. Another syndicate even suggests still further dispersion of force by leaving part of a company as escort to the guns, which are well in rear and will soon be protected by the arrival of the main body!

Surely it is a serious reflection that in such a case, where economy of time is of the first importance, experienced officers would risk dispersing the force of their manoeuvre in packets so small that neither could deliver an effective blow, and on lines of approach so widely apart that neither could support the other.

Yet this is a true story. That, in our war-experienced Army, a representative group of officers averaging from seven to twenty years' service, who are thoroughly competent in other respects, can be so tactically deficient surely indicates that something is wrong with our system of teaching.

What more striking illustration could be obtained of the danger of befogging the mind of the subordinate commander with a mass of tactical precepts and considerations, often seemingly contradictory and made more involved by frequent reservations? Surely instead it would be safer to define clearly the few essential principles in a simple framework. It is only the very exceptional individual who after being

drenched in this morass during his early service will have the keenness and originality to find his own way out to the bedrock principles of tactics.

The writer's own experience has led him to the view, shared by others of vastly wider experience, that the majority of the failures of the troop leading in modern battle are due to the junior commanders' haziness of mind as to the correct action to take in any particular tactical situation. How often in the late war did carefully prepared plans, worked out by the staff complete to the minutest detail, fail because an unforeseen centre of enemy resistance was encountered or an unexpected movement of the enemy took place?

The over-elaborated plan was thrown out of gear by the delay caused in dealing with the unforeseen. Often the actual resistance could be, and was, overcome by the unit immediately opposed to it, without other aid, but the "friction" due to the uncalculated event upset the ordered progress of the neighbouring units.

It was then that the junior commander of infantry groped vainly among the multitudinous "considerations" which he had imbibed from the text-books in the futile endeavour to think of all the considerations which were applicable to the situation and decide which should govern his next move.

It is felt that the compilers of text-books failed in some measure to realise that subordinate leaders when embroiled in the heat of battle cannot be expected to remain crafty and cool-headed chess players capable of deliberating on the exactly correct move to meet every situation as it arises. The precepts, considerations, and reservations catalogued in the manuals may be remembered and sifted by the higher commanders in secure command posts in rear, but those who are in the forefront of the battle have rarely the time or the power of weighing up the pros and cons of the situation.

It is a truth too often forgotten in our training methods and manuals that in the excitement of battle, the normal mind retains only those ideas which are so thoroughly ingrained as to have become instinctive. The secret of the success of our infantry in the battles of earlier days rested largely on the fact that the movements which they were called to carry out in battle were identical with those which they had practised, until they had become second nature, on the drill ground in peace. It is true we still retain these same movements, which were actually applicable to battle conditions in the days of the musket, but on going into battle we tell our men, illogically, that the one part of their training which has become instinctive must be thrown to the winds and dismissed the memory. No wonder that on occasion this admonition was forgotten in the late war in moments of crisis and one saw men advancing against the deadly fire of machine guns in closed packed line or column of fours, until the leaden hail convinced the survivors that their instincts had been drilled into obsolete grooves.

Surely the answer to the costly losses of the past should be to provide the junior officers and non-commissioned officers with a simple framework of tactics, just sufficiently flexible to be adjustable to the

normal situations of battle. Once established, this framework should be drilled into them until they act on it instinctively.

We shall never train an infantry as efficient in comparison with that of our forefathers if we make them build their knowledge on shifting sands of "considerations" which we tell them are always changing, and subject to reservations. We must give them a concrete foundation on which, as they gain experience, they can build their knowledge of ground and the effect of fire.

Theoretical rules to be of use and to be remembered in the stress of action must be clear and brief enough to be carried in a man's head. Moreover, they should be clothed in the form of a parable or simple imagery which will leap into his mind by force of association with some common object or action with which he is thoroughly familiar, as for instance the analogy of boxing or personal combat.

Then there is a certain school of military thought which maintains that infantry tactics can only be taught by actual experience on the ground, with or without troops, and by the application of common-sense and experience to each individual situation as it occurs. They lay stress on the assertion that in battle no two situations are ever alike, and therefore they aver that both text-books and previously taught principles are of little use.

Surely this rule of thumb method of training is unscientific and hopelessly slow even if it were sound, which may be doubted. One may illustrate the folly of it by considering the parallel of teaching tactics with that of sending a man out to become acquainted with a stretch of country in order that he may be able to act as a guide over it. The methods of the school of thought we have spoken of are similar to telling the man that he can only learn his job by exploring every yard of the ground, explaining to him that it is sheer waste of time to give him any directions or landmarks as the ground will look different from every aspect.

Even if our guide-to-be should prove a man of most exemplary keenness and conscientiousness, this method must inevitably be slow. It will certainly be uneconomic, owing to the length of time he will have to be paid to learn his duties without any return. Moreover, the fine edge of even the keenest blade is apt to become dulled by incessant hacking. Unless our learner is of unusual intelligence he may so immerse himself in the intricacies of the ground that, when it at last falls to him to put his knowledge to practical use, he may lose his way because he has not realized the relation of the different landmarks to each other.

But if such a method as this of gaining knowledge would have these grave drawbacks in the case of such an unnaturally exemplary individual as we have portrayed, how much worse the result in the case of the average man? He would simply start his travels from what appeared to him the easiest and pleasantest point—in all probability the village inn—and it is feared that he would know the immediate locality too well, but remain in complete ignorance of the main portion of his allotted area.

Surely it will not be questioned that a better method would be to supply the guide-to-be with a plan on which were plotted the essential landmarks, leaving out the mass of wearisome detail which would only hamper him in grasping the relation of the landmarks to each other. Thus when he had committed this plan to memory he might be allowed to improve his general knowledge of the area by traversing it as frequently as possible, using the landmarks to direct himself. By this method he would be able, if the call came, to carry out his functions as a guide almost immediately, and should he come on an unknown stretch of ground he could always save himself from losing his way by noting the nearest landmarks.

Tactics are just as much an unknown country to the budding officer or non-commissioned officer. They stand in even greater need of a plotted system of landmarks, in the form of a framework of the essential principles, to direct their steps, for the fate of nations may depend on their guiding in the day of battle. In the past the training manuals have been usually compiled by senior officers who have grown grey in the slow pursuit of knowledge, and not unnaturally they have been apt to forget that what to them is self-evident or second nature is to the aspiring young leader-to-be an unknown country littered with unfamiliar signs, which merely dazzle and blind his half-grown vision, leaving his mind in chaos. The past method of relying on experience and unorganized initiative to supply the key to every puzzle has too often led to chaos when the subordinate leader so trained has been brought abruptly against novel conditions.

It is to be feared that this failure has not been confined solely to the junior leaders. One may perhaps reflect on the lessons of the late War, how, when trench warfare came into being, commanders groping either in their past experience or among the mass of considerations in the text-books, found nothing to fit the novel situation. So for the lack of an ingrained framework on which to base their deductions, painfully and at a bitter price they had to learn anew from the beginning, only to realize at the close of a tragic and terrible pilgrimage that the key to the problem was simply the old master key adapted to the new lock. Nay, worse still, they fell back on the methods of a still earlier generation, and thus was seen the incredible folly of men trying to carry out Crimean close order movements in the teeth of machine guns. Thus casualties in fact became the only guides to tactical improvement!

Is it not time that we laid down a clear-cut framework—not a mere catalogue, for that would be worse than useless—of principles at the very beginning of manuals. It is generally admitted that there is evidence that such masters of war as Napoleon and Frederick worked out their plans on a certain framework of principles, aiming always to execute a formula of action which they adapted to the actual situation as it developed. We cannot expect our platoon commanders to deduce their own framework. It is hopeless to expect every infantry leader to be a potential Napoleon. Even if they tried it is unlikely that the many different formulas resulting would fit in with each other, and

the effect would be to produce a confusion as uncoordinated as at present. Such a framework should be supplied to them, and ingrained in them by constant repetition. Thus, when they practised on the ground, with or without troops, they would reap a fuller benefit from it than from their diverse and unrelated schemes of the present.

These last reflections bring us to a further argument in favour of a framework.

In the past our teaching of tactics, our schemes, our books have been devoted to imparting the right course of action of a single body. Our instructions and advice appear to be directed to the supreme commander of an independent command, whether it be an army, a battalion, or a platoon. Despite the lessons of the late war we do not seem to have grasped that in the vast majority of their actions our infantry leaders must consider themselves first and foremost as merely the interdependent and subordinate working parts of a vast machine; that, above all, their correct course of action in every situation must be guided by the necessity of fitting in and dovetailing with the requirements of the neighbouring units and of the machine as a whole.

The new Field Service Regulations mark the dawn of a new era in devoting whole chapters to the co-operation of the different arms with each other. But even they seem to have missed the outstanding lesson of the war when they fail to deal adequately with the necessity for co-operation between the different units within each arm. This necessity demands a complete orientation of our channels of thought. It is an aspect which seems entirely overlooked in our training.

Even now what do we almost invariably notice when we see a company or a platoon carrying out a tactical exercise, let us say an attack practice? That it is conceived as an attack by an independent unit, to all intents, on a single objective or strong point. How rarely does the officer responsible for the scheme appear to realize that in actual battle his success and movements would be largely dependent upon the actions of the neighbouring units; that when the single immediate objective had been taken, his real difficulties and problems would begin, in co-ordinating his next movements with the general scheme, to reap the fullest advantage for his side. In modern battle it is rarely possible to tell beforehand at what point and moment he may come up against his own immediate opponents. Moreover, it is reasonably certain that as he fights his way forward he will run against, not only one, but a series of such stumbling-blocks in his path; that each success must only be regarded as a stepping-stone on his way, and that when he has overcome the problem of reducing one centre of resistance, the real problem will arise as to how to resume his rôle in the general plan of advance. So long as our infantry commanders in their tactical exercises only visualize the action necessary to overcome a single rock in their path, so long will they fail to break even the crust of the training necessary for modern war.

It is for this reason above all that there is such urgent need of a crisp, clear-cut formula, which will enable the small sub-units of infantry to co-operate with one another and to co-ordinate their actions

in a harmonious cycle to achieve the general success. At present our sub-units are too often like an unorganized mob, pushing disjointly, at diverse moments and points, against a boulder in their path, which would present but slight delay to an organized team uniting in one effort.

This formula which is required must be sufficiently flexible—and therefore simple—to fit the various situations and phases of action which the small infantry unit is likely to meet in a large scale battle. It will scarcely be disputed that in the case of the minor infantry units these situations do not vary too widely to be incapable of being covered by a simple and flexible framework or formula.

These minor units are moving parts of the car—which is the whole force. The car itself, under the control of its driver, the general commanding, may alter its direction, vary its speed, change its gears, but the actual moving parts execute their share in a definite system, comprising a certain few cycles of movement which are almost uniform. The main essential to the smooth running of the car to its journey's end—victory—is that each moving part should fulfil its rôle in harmony with the remainder.

It is hoped that these few arguments may have helped to carry conviction of the need for a framework of elementary but essential tactical principles. To supply such a framework rests with those in authority.

Should the writer be accused of shirking the difficulty of solving the problem to which he has drawn attention, he would plead in his defence that such a framework was put forward by him as a trial essay in a lecture at the Royal United Service Institution in November, 1920, and published in this JOURNAL for February of this year.

As may be remembered, a simple yet flexible formula, or framework, of tactical action was deduced from the natural procedure of a man fighting another in the dark.

The main girders of the framework comprised five principles in chronological order:—Protective Formation, Reconnaissance, Fixing, Decisive Manœuvre, and Exploitation. It was argued that since dispersion caused by modern weapons had given to each infantry unit the power of penetration and manœuvre, the formula held good even for every small unit in a large scale battle, and that the formula was true equally of defence as for attack.

The infantry unit of to-day was compared to a human tank possessing both offensive power—its fire weapons and movement—and protective armour—a formation, moving or halted, with an outstretched "arm" or part.

Apart from its intrinsic defects or merits, this formula fulfilled the condition that in order to be remembered such a framework must be based on some simple metaphor or imagery with which, from constant association, every man is familiar. The analogy of personal combat is surely the most vivid and suitable because it is so closely related to the tactics of battle. Our infantry leader would only have to recall to his mind when confronted with the problem as to what is to be his next step, the familiar actions of personal combat.

It may further be recalled that in the "Expanding Torrent" system, the endeavour was made to link up this formula, executed by every infantry unit against each of the series of posts it encounters during its advance through a defensive system, with the need for maintaining the momentum of the whole attack, and to ensure that this was not allowed to slacken nor friction developed between the moving parts, because of the delay involved in overcoming each obstacle in the path of the sub-units.

Further advantages claimed for this method were that it would avoid limiting the advance of unexhausted units, and that the co-ordination of the advance of the different parts of the unit would rest with the commander of the whole unit rather than upon the difficult task of co-operation between the parts, or sub-units, themselves—thus the driver would retain control of his battle car instead of losing all but a shadow as happens at present.

Whilst recalling these fundamental formulas, the suggestion may be made that almost every minor tactical move can be reduced to a formula. An example of this is when deciding which flank to turn. It is a self-evident axiom that with the small units of infantry, it is desirable to throw in one's full weight of manoeuvre on one flank only if a quickly decisive blow is to be achieved. Hence our formula runs thus :—

The question is automatically decided :—

- (i) If the neighbouring platoon on one of your flanks is making quicker progress than you, move towards that flank.
- (ii) If one of your forward sections is making quicker progress than the other, move towards it.
- (iii) If smoke is used; go round the windward flank.

If the question is not automatically decided in one of these ways :—

Survey the ground personally and choose the flank which affords the most covered approach and the maximum advantage from covering fire.

In the lecture to which we referred, two tasks were attempted; to establish our moving part—the infantry unit—in its cycle of operation by the *man-in-the-dark* formula; secondly, to fit it into its place in the chassis of our battle car and to link it up with the other moving parts by means of the *expanding torrent* system.

It remains to ensure its smooth running by means of a controllable system of movement. Our predecessors, wiser than we have been, did not discard their drill movements when they came to the battlefield. The wonderful quickness of movement and manoeuvre which they had attained on the barrack square saved them many times when the fate of an engagement depended on the rapidity with which the sub-units responded to the control of the commander.

Have we not acted as over-ruthless iconoclasts in discarding utterly their experience? Efficiency can best be attained, not by scrupulously retaining their drill movements for the parade ground and then throwing them aside for all practical purposes, but by adapting them

to the conditions enforced by modern weapons. To retain the letter of tradition from sentiment results too often in stagnation and decay. But the spirit of tradition purified and refined by the acid test of reason and knowledge is ideal, because it represents the pure gold of experience stripped of the dross of passing prejudice and fallacy. Can it be denied that we should save minutes, and even hours, of priceless value, if during the approach, and indeed at all times save when under close rifle or machine gun fire, we were able to manœuvre our infantry units, to extend or close their parts according to the ground and the varying effect of the enemy's fire, by the use of an ingrained system of battle drill?

Close order movements should be erased from the soldier's mind, but in their place should be implanted by constant drill a system of instant and controlled movement. This would be in the form of an open order drill for the infantry battalion. Voice control would be out of the question for these drill movements, but some form of visual control might well be used, provided the signals were few and simple. The ordinary hand signals, with cautionary whistle blasts, should prove effective save when in very close contact with the enemy. Moreover, it should not be beyond the wit of man to evolve a more penetrating instrument and a clearer means of signalling.

Even during the actual attack, one may suggest that on many occasions such an ingrained method of control could be used to quicken manœuvre and direct sub-units to take advantage of covered ways of approach. Let anyone with experience of war ask himself if there were not many moments in his recollection when he might, had his men but been drilled in such a system, have saved precious minutes, by the use of a signal instead of the slow method of sending a message by runner? How often did he have to let slip some priceless opportunity because he knew that his sub-units or men were beyond his control, that before any message could reach them the opportunity had gone or the mistake passed beyond the power of mending? Given such a system of control we should still have the runner to fall back on, if the signal passed unobserved.

To meet again the challenge that destructive criticism is useless unless followed up by a constructive suggestion, let us outline a system, which has been actually worked out and practised.

For control signals we only need four, other than the "advance" and "halt" signals. These four are the "extend" (or deploy), the "close," the "change direction" and the "incline."

The key to the system is that on an "extend" signal the unit opens out into the *next more open formation*, whilst on a "close" signal it closes into the *next more closed formation*. Taking the battalion as an example, let us suppose that it is marching along in column of route. On an "extend" signal it would open out into the *next more open formation*, the four companies opening out from the battalion column to form a diamond or square with, let us say, 400 yards interval and distance between each company. On a second "extend" signal each company would open out into platoon columns at 200 yards interval and distance

from each other. Should a "close" signal then be given the platoons of each company would close in and form a company column once more. Thus the battalion could be opened out in concertina fashion to any necessary degree, or closed in again, with the least possible delay.

If a "change direction" signal was given when the battalion was deployed in platoon columns, each platoon would simply wheel, and advance to the flank indicated.

If a "half change direction" signal was given, the leading line of platoons would make a half wheel to the flank indicated, and then lead on, each remaining line of platoons conforming on reaching the same alignment.

If an "incline" signal was given, each platoon in the battalion would make a half wheel to the flank indicated and then advance in the new direction.

The power of control given by these two signals should prove of the utmost value in altering the direction of deployed units and in taking advantage of covered approaches. In the case of a small unit like a platoon it might be used even in contact with the enemy.

Such a system as this might go far to restore the wonderful flexibility which the British Infantry possessed in the days when close order movements were possible in battle; those days when they were the first infantry in Europe in power of manoeuvre. However great their right to this title still on other grounds, it could scarcely be claimed for them on that score since the introduction of open order.

EPILOGUE.

The views which have been put forward may seem at first sight to be novel if not daring, but it is hoped that when the foregoing arguments have been digested, there will be a measure of agreement with the need for a framework at least, if not with the one put forward at the lecture to which we referred.

The use of ground and scoutcraft can never be reduced to a formula or framework, but it is claimed that the minor tactics of infantry would be immeasurably improved by a flexible framework of tactics and of movement becoming instinctive in every junior leader and man.

THE ANTIQUITY OF SEA POWER.

By REAR-ADMIRAL CASPAR F. GOODRICH, U.S. Navy.

POSSIBLY it may be well, if only as a diversion from the momentous naval problems of the day, to delve into past history with a view to discovering the earliest records of men-of-war. From them we can derive a fairly correct idea of what these ships were; how they were propelled; how manned; how fought. Incidentally, we shall perceive that the fact, if not the theory, of Sea Power was recognized even prior to 4004 B.C., the date of the creation of the world according to the strictly literal interpretation of the Holy Scriptures.

At my request, David Paton, Esq., the eminent American Egyptologist, has supplied the information here briefly presented. It is hoped that the members of the Royal Navy will be pleased to learn how old, as well as honourable, is the profession to which they belong.

The incidents, as a rule, are found in hieroglyphics on the tombs of monarchs or on their palace walls in Egypt. Instead of complaining of their paucity, we should rather rejoice that so many of these hieroglyphics have survived the ravages of time and wilful destruction. While subsequent decipherings may add to our knowledge, we possess already sufficient data for the purpose of this short article. The quotation marks enclose passages drawn from Mr. Paton's original memorandum which I have taken the liberty of editing and to which I have added brief notes and comments of my own. I am sure my readers will join me in thanking him for his kindness and for the trouble he has taken to serve the ends of the Royal United Service Institution.

I. "On the 'Palermo Stone' now in the Museo di Palermo, a record which, if not actually the earliest chronicle of Egyptian history, is certainly a copy of that record, is the following entry: 'Bringing forty ships set up of cedar wood'; and, again, there is a memorandum that some of these ships were one hundred cubits (circa 170 feet) over all."

As the first vessels ever constructed must have been much smaller, on the reasonable theory that all things, even ships, grow from small to great, the building of the earliest sea-going craft is thus pushed still farther back into the mists of pre-historic time.

Mr. Paton goes on to say that:—

"The period is that of King Seneferu of the IVth Dynasty and the date circa 4750 B.C. The cedar came only from Lebanon, so that Seneferu, who built his pyramid at Medum at least twenty years before Cheops built the pyramids of Ghizeh, sent fleets to Phœnicia. These fleets were usually in the nature of convoys—barges laden with wood or building stone, etc., accompanied by warships."

II. "On the tomb of Una at Abydos . . . is the following entry : 'His Majesty sent me to Elephantine' [then, after he had performed his commission] 'Then I sailed downstream . . . with six cargo-boats, three tow-boats, and three [???] boats to one warship.' Una lived in the reign of Mer-en-Ra of the VIth Dynasty (circa 4250 B.C.)."

"Of course, most of the ships of which we have records in early times were used on the Nile. But we have 'log books' which show that the Egyptians were deep sea sailors also, *e.g.*, another early traveller bears witness to this; Pepy Nekht in his tomb at Kubbet el Hawa records 'I was also sent by the Majesty of the Royal Lord to the country of the Aamu to fetch to him the 'Sole Companion' [a high noble] "Director of Caravans," who was putting together a great ship therein for the Land of Punt. But the Aamu killed him.' The Aamu were the nomads on the Isthmus of Suez, and Punt is now known as Somali Land . . . The period was that of King Pepy II. of the VIth Dynasty (circa 4250 B.C.)."

"These few instances are given because it is generally assumed that Egypt had no foreign intercourse, especially by warships, with the oversea countries until the XVIIIth Dynasty began its long series of conquests in Western Asia. This, however, as is indicated by these records, is incorrect. But the question is too broad to be satisfactorily answered here."

III. "In the XIIth Dynasty (circa 3579-3366 B.C.) we find pictures illustrating the various classes of ships, *e.g.*, Tomb of Khety, at Beni Hasan. Two rows of ships contain (upper) two barges towed by a tug fitted with numerous oars. (Lower) four vessels with masts and sails, one of which is being lowered. Two men are driving mooring stakes. On the Tomb of Amenemhat are shown a funeral barge towed by two sailing ships, manned by soldiers, and having oars. These latter boats are men-of-war. In the Tomb of Thuti-Hetep (No. II.) at el Bersheh . . . there are six large ships. Astern is a Royal Barge carrying a throne, with a cable run out to a tow boat of sixteen oars, having a large sweeping rudder like those now seen in the basin of the Thames and a mast which lowers like the smoke stack on the river boats on the Seine. In front is the escort, *viz.*, three large warships and a smaller one similarly rigged. One has twenty oars in one bank. But the warships are of much heavier construction, especially forward."

IV. "What are known as the 'Hyksos' or 'Shepherd Kings,' a Western Asiatic series of invaders, conquered and ruled over Egypt, and also sometimes perhaps quite to the Euphrates, for many generations. Then the Egyptians revolted and fought for their liberty, under the first kings of the XVIIIth Dynasty. The decisive battle was on the Delta and was fought on land with the co-operation of the war fleet at a place called 'Avaris' (*i.e.* Hetwart) a city on the Bubastite Channel of the Delta . . . in the neighbourhood of the modern Zagazig. The main account of this fight, one of the 'Decisive Battles of the World,' is derived from the inscription of one Aahmes, 'Chief of the Sailors' under King Aahmes I., the first of the XVIIIth Dynasty (circa

1587 B.C.) He says on his tomb at el Kab . . . 'The City of Hetwart was besieged . . . I was appointed to the ship [named] "Shining in Memphis" and there was a battle on the water in the Pazedku Channel. I took booty, I brought away one hand and one [. . .]. Again there was fighting in that place and in this land of Egypt South of this City, and lo! I brought away a living captive, one man; I went into the water, and mark you! he was actually brought in as captured on the road to the city. . . . Then Hetwart was taken! Later there was naval service up the Nile in Nubia. 'I was brave in His [*i.e.* the King's] presence on the Bad Water in the attack of the ships at the bend [of the channel]. Then I was appointed Chief of the Sailors [Heru Khenyt]. . . . As to His Majesty himself he raged like a panther. He hurled his spear. It remained in the body of the fallen chief of the foe. Thereafter sailing to the north-west went His Majesty, and that wretched Nubian hung head downwards on the prow of the Royal Barge and was landed at Karnak.'"

It is evident from this vainglorious account that naval battles were then conducted in the manner adhered to until the seventeenth century. The sailors or oarsmen brought opposing ships into contact for the soldiers to settle the issue with their arms. The advent of the gun it was which rang down the curtain on this mode of maritime fighting.

V. "Thutmosis III. during his long reign (circa 1503-1449 B.C., 200 years before the exodus under Moses) made at least seventeen campaigns into Western Asia, going as far as the Euphrates. His fleet was always the main factor in his plans. It supplied and supported his army. The latter marched along the coast . . . and at stated intervals bases of supplies were created by and served by the fleet, *e.g.*, in his 'Annals' on the wall of the Temple of Amon at Karnak we often find such statements as . . . 'Year XXXVIII., Behold all the stations, city ports, were supplied with every useful thing according to their quota by the schedule of the year in sailing north and sailing south.' The fleet naturally encountered the warships of the enemy, and among their records of prizes taken we find such as [Year XXXIV] 'Behold, every station, city port, belonging to His Majesty was supplied with all useful things which His Majesty seized in the land of Phoenicia . . . consisting of cedar wood and Cretan ships, also ships of Byblos and ships of the Evening Sun' [*i.e.* of the Western Islands]."

Doubtless this last expression does not refer to the group now known by that name but more probably implies Sicily and Sardinia.

VI. "Any one who studies the geographical features of the great campaigns against Western Asia and, conversely, the great invasions of Egypt from the north and north-east, will see at once that sea power was as important then as it is now. On the one hand, the long route of communication with the Egyptian armies when invading Western Asia was always exposed to attack, as the main road was close to the sea; on the other hand, time after time Egypt was invaded by the seafaring peoples of the Mediterranean. Finally, such an invasion almost overwhelmed Egypt in the reign of Rameses IV. of the XXth Dynasty

(circa 1200 B.C.), who perpetuated it on his great temple at Medinet Habu in West Thebes . . . on the second great pylon or gateway. He says: 'The countries, the Northerners [?] in their isles were disturbed—at one time—not one stood before their bands. From the Hittite land . . . Carchemish. Arvad (Genesis x. 18), Cyprus were laid waste. They set up a camp in Amor. They desolated his people; and his land is like that which does not exist. They came with fire prepared before them forward to Egypt [Query, could these have been Germans in Belgium?!!]. Now it happened that . . . I was prepared and armed to trap them like wild fowl. The chiefs, the captains of infantry . . . the nobles I caused to equip the harbour mouths like a strong wall with warships, galleys and barges. They were manned completely from bow to stern with valiant warriors bearing their arms, soldiers of all the choicest of Egypt being like lions roaring upon the mountain tops.'"

"Then follows the disposition of the land forces and, after the battle, 'As for those who reached my boundary, their seed is not. As for those who had assembled before them on the sea, the full flame was in their front before the harbour mouths, and a line of metal upon the shore surrounded them. They were dragged, overturned and laid low upon the beach, slain and made heaps from stern to bow of their galleys, while all their things were cast upon the water.'"

"This is explained by a picture in relief on the north wall near this text . . . 'Five ships of the Peleset (Philistines) and Sherdon (Sardinians) engage four Egyptian warships, which press them hard; one is upset. The decks are crowded with bow-men shooting at long distance. Infantry with heavy swords and spears stand by to board when near enough. When the decks of the enemy were cleared by the bow-men, the ships closed in and a rush was made. Some prisoners have been taken and bound. Others are in the water and are being killed. These must have been slain while swimming.' [The whole picture should be dedicated to von Tirpitz.]"

"The strategy is explained by two passages in the texts which are sculptured near. 'The Northern countries which are in their isles . . . infest the channels of the harbour mouths. . . . The net was ready for them, to ensnare them. Entering stealthily into the harbour mouth, they fell into it. Caught in this place they were dispatched.'"

From the foregoing translations by Mr. Paton we learn of what material these ancient craft were constructed and, approximately, their length. Since the art of shipbuilding must have reached no insignificant development before the date of the Palermo Stone, it may be safely held that our profession can claim an even longer life than the nearly seven thousand years which that stone authoritatively gives it. It is also interesting to know that the very earliest human record as yet discovered treats of ships of war.

Again, as Mr. Paton justly observes, these ancient hieroglyphics bear testimony to the fact that sea power has always been an important and at times the dominant factor in the history of mankind.

NAPOLEON AND THE BRITISH NAVY.

By COMMANDER LORD TEIGNMOUTH, R.N. (Ret.).

"If it had not been for you English, I should have been Emperor of the East; but wherever there is water to float a ship, we are sure to find you in our way."—NAPOLEON, at St. Helena.

THUS did Napoleon seek to excuse the miscarriage of his deep-laid plans for an Eastern Empire; and assuredly, if ever man had cause for cherishing a grudge against the British Navy, that man was Napoleon Bonaparte. For athwart all his dreams of world-dominion there hung, like the sword of Damocles, the shadow of the British fleet. It was the wooden walls of Old England, and the "hearts of oak" behind them, that blocked the road to the east; shattering, in Aboukir Bay, all hope of empire-building beyond the seas; and by the victory off Cape Trafalgar, destroying every chance of crushing England by a successful invasion.

During the rest of the war the ocean was, virtually, a British lake: "if a ship passed," wrote a French officer while prisoner-of-war in a British ship, "she was sure to be English; no other had permission to spread her sails to the breeze, and ocean heard not a word that was not English. The English felt sad themselves on this account, and complained that the ocean had now become a desert, where they met with nobody but their own countrymen."

The sense of loneliness afloat, after Trafalgar, was one of the severest trials Lord Collingwood had to endure: "At sea, there is no getting intelligence," he wrote in 1808, "as there used to be on former occasions, for now there is not a trading ship upon the seas—nothing but ourselves. It has made me almost crazy."

To the last moment of Napoleon's active career, the British fleet, like some dreadful nightmare, troubled all his dreams. And, after the bubble of his reputation had been finally pricked at Waterloo, and he was winging his flight to the west, "destiny," as a writer has aptly put it, "in the shape of the British cruisers, lay right in his path." Recognizing, at last, the futility of struggling against fate, the Emperor paid unwilling homage to the influence and ubiquity of sea-power, by surrender to a British naval officer. And, in truth, there was a peculiar fitness in the submission of the "Tyrant of Europe" to the instrument which, by the destruction of his commerce, the interception of his supplies, and the ruination of his overseas designs, had been the chief agent in effecting his downfall. The dramatic episode on the *Bellerophon's* quarter-deck was an appropriate finale to the bloody drama which had monopolized, for so many years, the European stage.

In view of the important part assigned by fate to the British Navy in the stirring events of the Napoleonic era, a very special interest must attach to the opinions of the chief actor therein, concerning the instrument by which so many of his projects had been thwarted. A small-minded person would have belittled the work of the fleet, attributing its successes to good luck—to anything, in short, but to the skill and courage of those who handled it. In his later years, however, and after all hopes of realizing his dreams had vanished, the ex-Emperor invariably spoke respectfully of the British Navy, paying many a generous tribute to the sterling qualities of the men and the skill of their officers, and denoting what, in his opinion, gave our fleet so great a superiority over the fleets of other powers.

On the other hand, it must be regretfully admitted that Napoleon's attitude towards British seamen, throughout his active career, was by no means always generous or just. His official bulletins, for example, purporting to describe naval combats, were too often as inaccurate as they were bombastic. To quote only one—announcing "First blood" to the French, on the resumption of hostilities in 1803; on which occasion the British frigate *Minerve*, having grounded in a fog, under the Cherbourg forts, was forced to surrender, after a gallant but hopeless fight. News of the affair having reached the Emperor while in the theatre at Brussels, so favourable an opportunity of enhancing his own prestige and pandering to the national pride, was not to be lost. Rising, he thus addressed the assemblage: "Gentlemen and ladies, the naval contest has commenced under the happiest auspices; a superb frigate of the enemy has just surrendered to two of our gunboats." This daring statement was based on the fact of the commander of a brig having been the recipient of Capt. Brenton's sword, on behalf of the officer commanding the forts to whom the *Minerve* had actually surrendered. Worse still were Napoleon's official versions of Trafalgar. His admirers must often wish these vagaries could be expunged from the page of history; but the printing-press is a sad tell-tale.

One of the most discreditable pages in the story of Napoleon's relations with the British Navy, relates to the treatment of officers and men whom the fortune of war placed in his power. Opinions may differ as to the degree of responsibility personally attaching to the Emperor in connection with the cruelties inflicted on British seamen with a view to sapping their allegiance to King and country, and driving them into the French service. But the gross breaches of faith involved in the arrest of hundreds of civilians who happened to be in France on the outbreak of hostilities in 1803, and the detention of merchant captains, naval surgeons, and even ministers of religion, and the refusal to exchange prisoners-of-war, constituted, not only an arbitrary innovation on the laws which had hitherto governed the conduct of war between civilized states, but a wicked and wanton abuse of power that nothing could excuse.

But of all the tyrannical acts by which the lot of the prisoners in French fortresses during the war was purposely aggravated, the most

reprehensible was the withholding of the relief funds contributed by friends at home to enable the poor fellows to augment their scanty rations. These remittances were, at first, sanctioned by the French government; but, as they had the effect of checking desertion to the enemy, further remittances were prohibited.

Verdun was the fortress first assigned by the French government for prisoners-of-war, and it remained the principal *dépôt* while hostilities lasted; the care of the prisoners being entrusted to an official named Wirion—with the prefix of "General." In justice to the French army, however, it must be explained that Wirion had never served as a soldier; a more unsuitable person, indeed, whether by education, training, or disposition, could scarcely have been selected for the post. But Napoleon, like many another despot, was not always happy in his choice of instruments; and by placing a man of Wirion's antecedents in charge of a community which, as time went on, comprised many gentlemen of rank and educational attainments, as well as naval and military officers of high professional distinction, the Emperor showed a grave lack of discernment.

Commencing his career as a police-officer, Wirion had risen, by the display of zeal during the revolution, to the rank of "General of Gendarmerie." No sooner did he take up his post as commandant of the *dépôt* at Verdun, than he gave ample proof of his unfitness for the position, proving, in short, just such another "jack-in-office" as the general described by Captain Brenton, in his "Memoir"—an uneducated boor, who had won his rank by some act of bravery in battle. To Captain Brenton's remonstrance against an objectionable order, on the ground that he had given his parole of honour, this savage replied: "*Je me moque de votre parole d'honneur; je ne sais pas ce que c'est, moi!*" "I will describe it to you," was the dignified rejoinder. "It is, with a British officer, stronger than any prison you have in France."

It was computed by trustworthy victims of Wirion's malpractices that, during the eight years of his administration he amassed, by various means—chiefly by the infliction of so-called "fines"—adjusted according to the supposed means of the delinquent, and from the proceeds of gambling hells, established under the designation of "Banks"—of which Wirion was part proprietor, a sum of not less than £30,000.

Complaints of General Wirion's administration having at length reached the Emperor's ears, he was summoned to Paris, and it is said that Napoleon, on receiving him, tore the decoration of the Legion of Honour with his own hands from Wirion's breast, and ordered him to be tried by court-martial. Thereupon, sooner than face the disgrace of exposure, Wirion retired to the Bois de Boulogne, and blew his brains out.

The cruel wrongs and, alas, ill-treatment suffered by our prisoners at the hands of Napoleon's subordinate officers, and in consequence of his edicts, fully account for the utter detestation in which the ex-Emperor's name was held by thousands of our countrymen, long after the conclusion of the war. And although the Emperor's modern

apologists are numerous, eloquent, and enthusiastic, it would need a heavily charged brush to whitewash over that particular page of history.

By a curious chance, the first of the *bona fide* prisoners-of-war to arrive at Verdun were the officers and crew of the frigate "Minerve," under Captain Jaleel Brenton—whose professional honour had been so gravely impeached by Napoleon. This gallant officer enjoyed a well-deserved reputation throughout the naval service for the interest he took in the welfare of his young officers, with the result that parents of lads about to enter the Navy sought to get them appointed to his ship, and never was confidence more amply justified. Thus, on reaching Epinal—where the party was detained for some months before being assigned to Verdun—Captain Brenton's "first care," he tells us, "was to have the young people (midshipmen) placed under his particular charge, put *en pension* with respectable French families, where they might have the advantage of regular hours, and be enabled to learn the language with greater facility, instead of living together with much of their time passed in idleness. They had the advantage of such masters as the place afforded, while the early hours of the French families greatly contributed to the health and comfort of those entrusted to their care; whilst the very moderate terms paid for their board and lodging, as well as for their instruction, enabled them to obtain great advantages at a very low price." And thus, as Captain Brenton justly observes, "the misfortune of having fallen into the enemy's hands bid fair to be of the most essential benefit to those who had been sent to sea very little advanced in education."

Assuredly, such an episode does not lend colour to the prevalent conception of our naval officers, during the Napoleonic war, as being mere "sea-dogs" of the roughest type, contemptuous, alike, of learning and the refinements of civilised society. On the other hand, that such an episode should be possible in an enemy's country, shows how little Napoleon's "hate propaganda" had effected the real sentiments of a naturally kind-hearted and chivalrous people towards the unfortunates whom the chances of war had placed in their power. In justice to the French, indeed, it may be well to explain that for the miseries endured by our countrymen, the *nation*, as a whole, was in no wise responsible; the *people* being but helpless instruments for giving effect to the decrees of a military despot—mere clay in the hands of the potter—in this case an unscrupulous fire-eater who, having seized the reins of power, proceeded to mould everything in furtherance of his own ambitious dreams. The innumerable acts of kindness shown to our countrymen in France by the civilian populace throughout eleven years of war, as likewise the courteous and chivalrous behaviour of many military officers of rank with whom our countrymen were brought into contact, not only shed lustre on the profession to which these officers belonged, but deserve a better fate than the oblivion to which they have been consigned by so-called historians of the war. The mere enumeration of these episodes would fill a good-sized volume.

And here, it may be worth mentioning, as an instance of the cheapness of living in France—at any rate, during the early stages of a great

war—that at the principal inn at Epinal, where the officers of the “Minerve” had their “mess,” an excellent dinner and supper, with wine, was provided for the small sum of one shilling and sixpence sterling per diem.

The same admirable arrangements were inaugurated by Captain Brenton on arrival at Verdun, and as time went on and all prospect of exchange and a speedy return to England faded away, the instinct of self-government began to assert itself—after the wont of Britons. Funds for the relief of the destitute were raised; schools for the young started; clubs and news-rooms organised; eating-houses provided, where British tastes in the matter of food were catered for; while, by permission of the authorities, the disused chapel of an old convent was utilized as a church, where services were regularly conducted by a clergyman of the Church of England—one of the “détenues”—such being the official designation of the civilian victims of Napoleon’s infamous edict.

The evil effects of Wirion’s administration were not long in manifesting themselves. Early in 1804, we learn, on the authority of Captain Brenton—better known as Sir Jaleel Brenton—that “the gaming tables were in full swing; dissipation and extravagance were the order of the day, and the result was as might have been anticipated—extensive misery and wretchedness, with many acts of gross misconduct, and a gloomy prospect presented itself for the remainder of the captivity.” While from another eye-witness we gather that “many were led from one form of depravity to another, while others, in despair and to drown their sorrows, destroyed themselves by drinking and other debaucheries.”

The admirable arrangements for safeguarding the morals and improving the educational shortcomings of the young officers were, alas! short-lived; and owing to the departure of their protector, the lads were left for the remainder of their captivity, without instruction or adequate control—to the utter ruin of many.

Fortunately, the infamous Wirion was succeeded by a man of honour and a gentleman, whose conduct towards the prisoners reflected credit on the profession he adorned. This gallant officer—Colonel the Baron de Beauchène conducted the dépôt—to quote the words of one of his charges, “in such a mild, gentlemanly manner, that he was revered as a father, rather than as a keeper.” While of this officer’s successor it is recorded that, “by adopting the mild measures of the high-minded de Beauchène, he thus continued to alleviate misery and diffuse contentment and resignation amongst the care-worn captives.”

Nor was the civilian populace lacking in friendliness towards the poor exiles. The published narratives, alike of prisoners-of-war and détenues, teem with instances of kindly feeling—especially towards the young officers who, having effected their escape from durance vile, found themselves dependent on the good will of the peasantry for the continuance of their journey to the coast or frontier.

Napoleon’s acquaintance with the British sailor began at the siege of Toulon, while he was a young artillery officer. The first occasion of his being afforded ocular proof of the pertinacity and daring of the men who had wrecked his plans was at Boulogne, when the invasion

scheme was inflaming his mind. Two sailors, who had escaped from Verdun and succeeded in reaching the coast, made a bold attempt to get away on the chance of being picked up by a British cruiser, in a frail craft built of wood and calico. News of the escapade having reached Napoleon, he ordered the men to be brought before him. Addressing a few questions to them, he was so struck with the bluntness of their replies and their daring, that he ordered them to be set at liberty—so runs the story—and a sum of money to be given them.

Two instances are recorded of Napoleon's indebtedness to British seamen prisoners-of-war for his escape from an awkward predicament. On the first occasion, he was passing through Verdun. Previous to his arrival, the mayor asked Baron de Beauchène, the commandant, to confine the prisoners-of-war during the Emperor's visit. "Please to be responsible for your own *bourgeoisie*, and I will answer for the English," was the reply. A fine blood horse had been lent for the Emperor's use. When about to mount, he asked the baron if it was his. "No, sire, it is the property of an English gentleman, and is lent to me for your Majesty's use." Thereupon the Emperor drew back his hand from the horse's neck and re-entered the carriage. As the vehicle crossed the bridge the traces gave way; they were dexterously spliced by the captain of an English merchant ship, who, however, received no reward from Napoleon.

The second, and most remarkable instance occurred during Napoleon's visit to Givet—the depôt for prisoners-of-war next in importance to Verdun, on the Belgian frontier. The circumstances attending the visit were so unique, and so flattering to the *amour propre* of the British exiles, that a somewhat detailed account of the event will be welcomed; especially as our historians have not deigned even to allude to the subject, though it was the most noteworthy episode—the one bright spot in the tragic story of our prisoners-of-war under Napoleon.

Early in 1811, Napoleon, after a tour in Holland, announced his intention of visiting Givet. Arriving late in the evening of a very wet and stormy day, it was given out that he would see no one but the Director of Fortifications, and intended continuing his journey to Paris at seven next morning.

"L'homme propose, mais Dieu dispose." Napoleon might issue his commands; but even he, with the Grand Army at his back, was unable to control the elements, and during the night his plans were upset by an unforeseen occurrence. The river Meuse cuts the town of Givet in two, and Greater and Lesser Givet were then connected by a temporary bridge of boats. Owing to continuous and heavy rain, anxiety was felt as to the safety of the bridge, and the inspector was summoned. On being questioned by an officer on the Emperor's staff if there was any risk of the bridge giving way, he replied, "No." "Will you answer for it?" "I will," was the reply. The river continued to rise with alarming rapidity, and at three o'clock next morning the bridge gave way. On this being reported to Caulaincourt, he was so enraged that he struck the inspector.

In this dilemma, a consultation was held, and as all the work-people connected with the bridge had gone to bed—worn out with their exertions, and from the effects of being engaged the previous evening in celebrating the Emperor's arrival in the cabarets, the Director of Fortifications was sent for: "You will do nothing," said he, "unless you send to the barracks for some of the English prisoners." Caulaincourt was astounded. "Will you swear for them?" "With my head," replied the Director. Thirty of the most reliable were at once selected and set to work, and in the course of a few hours accomplished what the French experts had pronounced impossible.

For the following deeply interesting narrative of this unique episode, we are indebted to an eye-witness—a personal friend of Baron Flayelle, the Director of Fortifications, namely, the Rev. R. B. Wolfe, a clergyman of the Church of England, and one of that numerous class called *Détenues*. This excellent man had been trapped by Napoleon's decree in 1803, while on his wedding tour. Finding himself prohibited from resuming his sacred calling at home, and learning of the deplorable condition of the prisoners-of-war at the *dépôts* for lack of any person to look after their interests and protect them from the ill usage and extortions of subordinate officials, Mr. Wolfe obtained permission to take up his residence at Givet—one of the worst administered of the *dépôts*—where, for the space of six years, he devoted life, strength, and a meagre purse to the welfare of his fellow-countrymen. Amongst these poor fellows he wrought a complete reformation, thus gaining the respect and friendship of successive commandants with one or two exceptions—unworthy men after the Wirion type, who were jealous of the influence he gained over the prisoners—thus checking desertions to the enemy. Amongst the privileges he won for them, the most valued was permission to do private jobs for the inhabitants of the town, and thus to earn a little money. In connection with this liberty, we are told by Mr. Wolfe that, "the strict observance of a given, or even implied parole, on the part of the prisoners, so raised the character of the English at Givet, that the commandant was quite persuaded that they were most in safety when they were most in the enjoyment of liberty. And although they were constantly escaping from the *prison*, they never betrayed this confidence placed in them. And it was not the officers (midshipmen, of whom several were sent here for punishment) or people of education who thus distinguished themselves, but common sailors and youngsters, who might have been expected to view the breach of their parole only as a joke. So that it was considered as a national feeling, and raised the English character extremely." In proof of this, the reverend gentleman tells a story of the French general, Monleau, a well-known hater of the English, "who would willingly have ordered the death of half-a-dozen of them in the mere hope of gratifying the Emperor." This fire-eater was complaining, in a large party one evening, of the total impossibility of keeping the English midshipmen, and saying that he had put them in the strongest dungeons in vain. "Je vous indiquerai, général," said a lady in the company, distinguished for her talents, "un moyen sûr." The general was all

ears. "Mettez les sur leur parole, les Anglois sont esclaves de leur parole d'honneur."

To resume our story. "The windows of my lodging," wrote the eye-witness, "commanded a view of the bridge, and on my first looking out in the morning I was extremely surprised to see a number of our men at work upon the river. They really had the appearance of amphibious animals in shape, and with an extraordinary share of the intelligence of men, some working up to their necks in water, others skimming in light boats against the rapid current as if they were going with the stream; at one time swimming to a place which they could not otherwise reach, at another diving to a vast depth to carry on their work. I immediately sent out my servant with some brandy, and gave each of them a little to prevent them from taking cold."

The description of the Emperor that follows is of special interest: "In the morning, when he found his departure prevented, he was absolutely furious, but he soon began to cool, and returned to bed. After breakfast, he sent for all the authorities, and was affable and familiar in the extreme. Finding it impossible to get near the door of the house he occupied, for the crowd, we placed ourselves before the window, where a great number of persons were collected to get a sight of Napoleon, who came from time to time to the window, looking with astonishment at the activity and exertions of the sailors, and sometimes turning his glass down upon the persons under the window, where some of the first noblemen in that neighbourhood were waiting, humbly seeking to catch a look from him, that they might present to him their different petitions, and of whom he took no more notice than if they had been dogs. As I saw him in the window, and narrowly observed his actions and his countenance, I could not help thinking that I saw something like apprehension. He showed, however, an astonishing presence of mind, and every one who approached him was in admiration and delight. I never in my life saw a man capable, in an instant, of such a change of countenance. At one moment he would seem to look through a person with knit brows and a fierceness so terrible as scarcely to appear human. The next moment his countenance would light up and exhibit an appearance of sprightliness and good humour which is rarely seen in man."

"On leaving the Palais," continues our eye-witness, "Napoleon went down to the river, and here a very interesting scene was offered to our view, and one which exhibited in a strong and gratifying point of view the character of the British sailor. The English were still working at the bridge, which they had nearly finished. He began to talk to one of them, through Mortier, who was standing with him, and they all came round him. And now any one of these men, who would have gone up to a cannon's mouth to destroy this enemy in battle, might with one push have sent him to the bottom of the Meuse, to rise no more. With good reason they might have said of him that he 'made the world as a wilderness, and destroyed the cities thereof, and opened not the house of his prisoners.' Yet, far from having any evil thoughts towards him, when he confided in their good faith, they were a sort of

garde d'honneur to him as he passed the river. And so great was the confidence he had in them that he would allow no one else about him; and there was not a single Frenchman allowed to be upon the flying bridge which they had constructed to bring him over."

An event of such unique interest and dramatic effect surely deserves to be immortalized on canvas. Is there no artist of British birth equal to the task?

The incident would seem to have left an indelible impression on the Emperor's mind; and in after years, while a prisoner at St. Helena, he described it, with passable accuracy, to his British physician. With characteristic egotism, however, he took all the credit to himself, of having hit on the idea of employing the English prisoners, "in effecting what the other imbeciles had pronounced impossible," to quote his own words. But we may safely accept our eye-witness's version of the affair, seeing that the reverend gentleman was on terms of close and friendly intimacy with the Inspector of Fortifications—the real author of the proposal.

The rest is soon told. Napoleon, pleased with the work of the prisoners, showed a good spirit, and, before leaving, gave orders for all who had worked at the bridge to have their liberty. The sequel, however, was creditable neither to the Emperor, nor to those responsible for carrying out his orders, for, when the passports arrived, only twelve men had their liberty; and worse still, "my passport was only for a parole of three months," states Mr. Wolfe, "instead of my liberty which had been promised me," a breach of faith the more reprehensible in view of his sacred calling and the long and unjust detention he had already suffered.

The fortunate seamen who had been granted their passports were rigged out handsomely in sailors' clothes, money was given them for the journey, and they were soon on the road to freedom. What of their after careers? Alas! history has not even deigned to record their names.

Before the Emperor quitted Givet, an incident occurred which afforded the inhabitants convincing evidence of his extraordinary versatility, energy, and attention to detail. Without warning, "Napoleon suddenly mounted on horseback," states Mr. Wolfe, "galloped up the almost perpendicular hill of Charlemont and down again, rode round the ramparts, while his generals could scarcely follow him, made observations at full gallop upon different points of the fortifications which were weak or in need of repair, and returned before those about him were well aware that he set off."

It was not until the ex-Emperor had claimed hospitality from the nation he had failed to overcome, and sought refuge under its flag, that he expressed his high opinion of the discipline and efficiency of the British fleet. Thus, shortly after surrendering to Captain Maitland of the *Bellerophon* in 1815, Napoleon avowed his admiration for the state of the ship. He was especially struck with the cleanliness and neat appearance of the crew. "Surely," said he, "your seamen are a different class of people from the French." And he added that "he thought it was owing to the men that we were always victorious at sea."

On Captain Maitland explaining that our victories were due to the superiority of our officers, who, "being constantly at sea, had nothing to divert their attention from their ships and their men." "I believe you are right," replied Napoleon. He was greatly impressed with the bearing of the Marines, exclaiming: "How much might be done with a hundred thousand such soldiers as these!"

During the ex-Emperor's sojourn on board the *Bellerophon*, he paid the closest attention to everything that went on, remarking to the captain on one occasion: "What I admire most in your ship is the extreme silence and orderly conduct of your men; on board a French ship every one calls and gives orders, and they gabble like so many geese." At another time he said: "There has been less noise in this ship, where there are six hundred men, during the whole time I have been in her, than there was on board the *Epervier*, with only one hundred, in the passage from the Isle d'Aix to Basque Roads."

During Napoleon's residence at Longwood, conversation often turned on naval matters, and many of his observations indicate a true insight into the basis of British power: they are of value, too, as reflecting the mind of one of the greatest leaders of men the world has known. In discussing the subject of England's exhaustion after the war, the ex-Emperor made a statement which is as applicable to the present juncture of affairs, as it was to that which prompted the remark:

"England, to recover herself, must renew her commerce . . . she must proceed in her proper sphere as an insular power, possessing command of the sea . . . so as to command respect, and make the Continental Powers court you, instead of your courting them. Other nations are jealous of a people all-powerful at sea, and will constantly assist to lessen that power, which is most effectually done by lessening your commerce. . . . Your maritime empire must decay if you have not more commerce than the rest of the world."

The light thus vouchsafed to Napoleon in his latter days had not always illumined his mind. No man, indeed, of equal genius had, throughout his career, given evidence of less appreciation of the true significance of maritime supremacy, or of the close relationship between British naval strength and the miscarriage of his designs.

STRATEGY AND AIR STRATEGY.

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Royal Air Force.

"Ask me for anything but time."—NAPOLEON.

I.—INTRODUCTION.

THE youth of the Air Service is doubtless a sufficient reason why no definition of the principles of air strategy exists; some would say that no air strategy *can* exist. Strategy deals with the utilization of separate services capable of independent action, and is a term which cannot normally be applied to an arm of a service working in co-operation with other troops. Is the Air Force capable of real independent action? The following pages will, it is hoped, assist the student to form a proper judgment in this most important matter.

But without necessarily denying the possibility of the existence of air strategy, it may be asserted that the time is not yet ripe for a definition of its principles. Strategic principles are derived from the study of history, and aerial warfare has the shortest of histories, too short indeed, and too confused by the circumstances of the times in which it was waged to be a sufficient basis for the deduction of guiding laws. But the answer to this is clear. Improvements in weapons, while they may revolutionize *tactics*, do not destroy the principles of *strategy*. Napoleon could draw lessons from campaigns of a time when gunpowder was unknown, and we have Mahan's authority for saying that the proper functions of the Navy in war and its true objectives remain unchanged in spite of such a radical advance as the substitution of steam for sails. History has therefore a great deal to teach us and we may confidently expect it to throw light on the possibilities of air strategy, although the air as a medium for war was unproved until the present century.

In this spirit, then, it is proposed to examine the principles of naval and military strategy, and attempt to deduce therefrom the principles of air strategy and estimate the value of the air service to enforce the national will.

II.—GENERAL CONSIDERATIONS.

It is necessary that the student should have a true idea of the underlying basis of all strategy. "War is a continuation of national policy." That is an obvious fact, but it must be remembered what the fact entails. In the first place it throws a special light on the saying of

Napoleon, that in war "the moral is to the material as three is to one." A nation that is convinced that its cause is just will bear with fortitude the chances of war, the politicians will be enabled to give the soldier a freer hand, and the Military Commander, trusting alike in the stability of the politician and the enthusiasm of his troops can concentrate on the strategic problems before him; he is indeed "thrice armed." But the fact has a deeper meaning than this. It means that the politician has not only the shaping of the policy that may lead to war, but a continuous interest in the strategy of the operations themselves. New factors constantly arise, new allies must be supported, or new potential enemies impressed, new foes attacked. It is not the truth that when once war is declared the Commander is free to concentrate on the field where success will bring the greatest military fruits; he must be guided by those responsible for the national policy and submit to "detachments" which may, indeed almost invariably will, prolong the ultimate decision over the major enemy. The Great War has shown us many examples of this. Victory lay, as indeed it had to lie, in the West, but the British had to fight extended campaigns from Mesopotamia to France, and for their part the Central Powers were irresistibly drawn to diversions of strength such as the Serbian and Roumanian campaigns.

But if the politician must help to direct the strategy of the war, the strategist has also his responsibilities for assisting to shape the policy to be pursued before war comes. Since war is the ultimate means of enforcing the national will, the military advisers of the Government (using the word "military" in its widest sense) must state the effect of any proposed policy on the military forces to be maintained. The effect of alliances must also be discussed, since no nation can now contemplate a policy of "splendid isolation." An example of this may be found in our naval policy. In past decades we stood alone and set ourselves a "two power standard" for our Navy. This was in fact just sufficient to allow us to hope for a slight superiority at all vital points; but the competition of other Powers was sufficient to convince us that even this modest standard must be abandoned. Our rapprochement with France and alliance with Japan were thus directly the result of our naval needs, the one lessening the danger to be met in Europe and the other removing a potential enemy from the waters of the Western Pacific.

Enough has been said to make the student realize that pure military strategy has little place in warfare, and that the increasing complications of alliances and treaties more and more tend towards the increase of political influence on the command in the field. It is deplorable that this should be so, for politics are essentially a matter of compromise, and compromise is fatal to pure strategy. Unhampered by other than military considerations a commander would seldom find it difficult to make up his mind as to which is the decisive theatre—influenced by politics the strongest man may err.

Other considerations than external politics may force the hand of the Commander in the Field. Modern war is waged on credit, and it

has been held by some that a serious set back at the beginning of a campaign might so depreciate the national credit that the end of the war, to all intents and purposes, might be dated from the initial reverse which stopped the markets of the world to a country suffering it. The experience of the war has not been decisive on this subject; it has certainly taught us that a nation may sustain serious reverses without immediately disastrous financial results, but it is open to doubt whether so great a disaster as the capture of Paris or a great German naval victory over the British Fleet would not have resulted in the shaking of the Allies' credit to a point from which recovery would have been almost impossible. International finance, however, is a most complicated subject on which it would be unwise for an amateur to venture, but it is at least certain that a commander would be ill advised to permit himself to be rushed into an engagement at the beginning of a campaign because of the existence of this factor.

Again, popular outcry may often affect strategy; it is easy to see that continued offensive air attacks on London would infallibly have forced the diversion of even greater numbers of aircraft from the field to defend the capital. These considerations are of vital importance to the student of aerial warfare; the moral factor is even more marked in air than in land strategy, and with divided political objectives easier to reach and the popular mind deeply affected by enemy aircraft action, the pressure from both above and below on an Air Commander will be extreme, and he must be forewarned.

III.—THE OFFENSIVE AND DEFENSIVE.

At the outset of a campaign the great question to be decided is as to whether the Army shall take the offensive or await the enemy's attack. The influence of the politician in all military operations has been referred to, and he enters immediately into this question. No nation desires to be thought the aggressor; the outbreak of the Great War was followed by a flood of white and blue books in which the various nations sought to prove that their enemies were the first to issue mobilization orders and thus precipitate the catastrophe. A better example might be that of the American Civil War; here the South were Secessionists—they only claimed a right to self-determination, and it would have ill become them to fire the first shot. Policy demanded that the North should be plainly the aggressors.

The superior readiness of the enemy, the absence of strategic railways, or the necessity for making use of a strong frontier line to compensate for inferior numbers, may force on a nation a defensive attitude at the outset of a campaign, but these are "excuses" for the decision, and it is generally recognized that a nation compelled to adopt a defensive form of strategy is at a disadvantage. The offensive gives the power of initiative; it enables us to get ahead of our enemy, forces him to wait to see our dispositions before he can make a counter move, and compels him to a course of action which can be largely foreseen. Again, while the

offence is concentrated, the defence must take into account all avenues of approach and is thus apt to be scattered and weak. It may indeed be stated as an axiom in land warfare that the defensive is only safe if it is used as a means to delay a concentrated offensive until a nation can concentrate its own forces; it is thus a stepping stone to the assumption of the offensive. To this it may be added that modern warfare between great armies has an unparalleled and devastating effect on the countries in which it is waged. This may never again be so marked as during the recent War of position on the Western Front, but even in a war of movement the destruction of railways, roads and bridges, of factories and industries which may provide sinews of war, and of crops and provisions which may feed the enemy armies, will have a terrible effect on the life of a people in whose midst war occurs. It will thus always be one of the objects of a commander to carry the war, if possible, into the territory of his enemy.

In naval as opposed to land warfare, the same basic principle exists, though it is less easy to detect. Admiral Mahan assures us that the defensive exists mainly that the offensive may act more freely, that every war must be in the end aggressive to induce the enemy to yield to our views, and that defensive works (e.g., coast defences) are solely to assure the naval Commander-in-Chief that his base is secure so that he can take the offensive without anxiety. If defensive measures are adequate, they will relieve the Government of the risk of popular clamour which may otherwise demand the presence of a portion of the high seas fleet. This last is no fancy picture; during the last War the bombardment of towns such as Lowestoft caused an outcry that altered and might have gravely prejudiced the disposition of the British Battle Fleet. That this outcry did not develop into a panic was due to the sea sense of the English people who trust their Navy. Happy is the Service that can inspire such trust.

In naval warfare, however, various reasons may *compel* a Navy to remain on the defensive. The presence of a stronger fleet controlling the exits of its harbours or capable, owing to superior speed, of bringing it to battle in the open sea, may make a policy of offence at the opening stages of war suicidal. It is fortunate that the increased power of the defensive in naval warfare, mines, booms, submarine nets, etc., may allow a fleet to lie in comparative safety from naval attack in a protected harbour. The weaker belligerent will take advantage of this and devote his efforts to reducing the strength of the enemy with a view to meeting him later on more favourable terms. But though the weaker fleet remains a certain factor its influence is relatively small; the mere fact that it is shut into a fortified base and is not on the high seas enables the shipping of the stronger power to go safely to and fro with the minimum of escorts and in general lightens the need of detachments. And as in the case of the Army, delay will only be a temporary expedient—the ultimate aim of all strategy must be the offensive. Indeed, it requires a rare combination of circumstances to enable a fleet to adopt even temporarily the passive rôle referred to above. If in the late War the relative naval strengths

had been reversed, and the British Fleet had been "blockaded" in Scapa Flow, the whole coastline of our island would have been laid open to naval attack and our import trade practically stopped. The situation would have been unendurable. The short open sea coast of Germany, the narrowness of its approaches, the value of the Baltic as a safe exercising ground, and lastly the comparative independence of the country in respect of sea-borne imports, could alone have enabled the passive rôle of the fleet to have been sustained with impunity, even with advantage, over a period of three years.

Let us now examine the question of air strategy in relation to the offensive. The lessons we have drawn from the strategy of the older Services have shown that, while the offensive is desirable, a defensive attitude may be forced on the weaker side. We have further seen that the only essence of strength in the defence is that of time. Under favourable circumstances it is within the power of the weaker force on land to *delay* the enemy by fighting until the situation changes in its favour; in the case of the Navy the time factor may be similarly utilized by avoidance of action altogether.

In the case of the air, the power of delay of the weaker side is practically non-existent. Compared with the Army it can take no advantage of defensive frontiers since none exist. It cannot take up a position to close certain avenues of approach, since these are indefinable. If it attempts to guard all vital points by dispersal, it can only suffer the disadvantages of that policy in its extremest form without hope of solid gain. Unlike the Navy, it cannot find a safe refuge—until all air bases are placed underground—unless it withdraws completely beyond the range of enemy aircraft, and, unlike the Navy, under no circumstances can such withdrawal be effected without laying great portions of the country liable to a devastating form of aerial attack. It is inconceivable that the populace of the most stolid nation would submit to such punishment without an outbreak of public opinion, which could only end in the sending up of its aerial fleet in a vain attempt to defeat superior numbers, or in its surrender in the terms of a dishonourable peace. Thus the rôle of an inferior fleet to remain behind barriers avoiding action is impossible to us, and on the other hand, the real use of an inferior army to delay the enemy's advance is equally incapable of being realized by an air force; to accept a defensive attitude without the few advantages which such can offer to the Navy or Army would be ridiculous, and it is plain that a strategical offensive is the only rôle which must be given the Air Force to play.

But to enable the strategical offensive to be undertaken we must once more consider the time factor in another aspect. In the small wars of the past, in which a standing army only was employed, the time factor had only to be considered in the actual moves of the forces in the field, but in modern national struggles it is of primary importance before a single move is made towards definite action. No nation can afford to keep in peace time a standing army of the size required to take the field;

it thus uses its field army to watch the enemy, while behind its shelter the mobilization of the national army proceeds.

The power for delay possessed by a covering force, the use of fortresses or natural defences to increase that power, and the time taken to move a considerable army are all factors which enable the standing army to bear a small relation to the national army to be mobilized for war. The perfection or otherwise of plans for mobilization will often be the deciding factor of a war, and will certainly govern the decision as to the ability of a nation to take the offensive. Thus in the Great War a German offensive was a foregone conclusion; her plan was to rush France, whom she could just beat in mobilization, defeat her decisively in the field at the earliest possible date, and then still have time to concentrate against unready Russia.

In Naval warfare, on the other hand, we find that, owing to the great distances covered by fleets in a single day, and the lack of delaying power in a covering force, there is less time for preparation. Some form of mobilization there must be, but the most effective portion of the modern fleet remains actually in commission.

And here the Air Force finds its true parallel. After the outbreak of war the mobilization of the air forces and transformation of civilian aircraft to military weapons must be pressed on with at high speed, but a large standing force is essential to the safety of the country. The "bolt from the blue" is a real menace: Japan attacked the Russian fleet in Port Arthur before the formal declaration of war reached the Russian Government. An air attack of a similar nature on the mobilization nerve centres of a country offers too great a prize to the strategist for it to be readily foregone; it can be organized without visible preparation, can materialize in a single night, and the aircraft participating can start from widely scattered centres.

It is true that a period of strained relations will always precede the actual opening of war, but this time may be short, as in the fateful days of July and August, 1914. Short or long, it will be impossible to bring the reserve Air Force to a war footing during that period—such an act would be tantamount to mobilization, and the prize to be won by speedy mobilization is, as has been explained, so great that the other side must inevitably follow suit; and if this stage is reached, hopes of the preservation of peace vanish.

The politics of peace cannot conceivably approve of action which must precipitate a conflict—thus the ill-prepared nation must remain unready till the first attack is made; and with the falling of the blow it will find that it has already lost the initiative and is cast unwillingly for the rôle of an aerial defensive with all the disadvantages entailed thereby.

IV.—THE SELECTION OF OBJECTIVES.

It is necessary in strategy, as it is in every action in life, to have a clear idea of our objective. In war our ultimate *object* is obvious, in as much as it lies in the imposition of our will upon the enemy, but some

immediate *objective* on which to direct our armed forces is plainly necessary, in order to effect our purpose. Thus the selection of an objective is the first problem which confronts the student. In the case of a war for disputed territory, the occupation of the province will doubtless form a suitable objective, but if the enemy has not been decisively defeated such action may be only a prelude to a long war.

In cases where there is a less definite and tangible basis for a war than a disputed country the matter is even less simple. At first sight the occupation of the enemy's capital may appear a suitable objective: it is the junction of the network of road and rail communications, the focus of wealth, the seat of Government, the nerve centre of the people; surely this is a sufficient aim? But history shows us otherwise. The capture of Paris by the German army, in 1914, was possible—why did they not attempt it, if the capital is a suitable objective? We saw Von Kluck turn aside from a prize almost within his grasp.

What is the reason of this and what the objective for which we must aim? The key may be found in the following facts: If the capital, or any given town or object is of great material value, the enemy will clearly fight for its safety; thus our primary stumbling block in the way of attaining an object will be the armed forces of our opponent. "Many generals see too many things at once," said Napoleon, "I only see one thing, the enemy's forces in the field. If these can be defeated, all else will fall into my hand." Once it is stated it is easy to see that this is the true principle—hopeless and decisive defeat of the enemy's armed forces will bring home to our antagonist the uselessness of struggling further; the mere possession by us of a point of the earth's surface may only stimulate him to greater efforts. Our primary objective in all strategical combinations is the enemy's forces in the field. An advance on his capital, the seizure of a valuable district, a threat to cut his communications, all these may indeed assist us to attain our objective by forcing him to fight in circumstances favourable to our plans, but they are subsidiary to the objective on which we must concentrate—the destruction of the enemy's forces; if this condition has not been fulfilled the war may be prolonged for many months before one side will acknowledge defeat.

It is interesting to see whether this principle is to be applied to naval warfare. At first sight there appears no alternative. The capital of the hostile power, if it be on the coast, will certainly be strongly defended against attack from the sea, and no other decisive objective than the enemy's fleet is apparent. A certain school of thought has, however, grown up which sees the whole duty of the Navy in the destruction or protection of commerce. During the late War the blockade was one, at least, of the defensive factors in the defeat of the Central Powers; if the situation had been reversed and the British trade destroyed, a matter of months could have brought an exhaustion which would have compelled our submission.

If, then, the sea communications are, under certain circumstances, all-important, it may be argued that the attack or defence of these may be the primary rôle of a nation's fleet. But this is wrong in as much as it confuses our object with the objective to be given to the fleet. The object,

as ever, remains the imposition of our will upon the enemy, and it can normally be best attained by the Navy by stifling the sea-borne trade of our opponent, but in order to effect this the primary objective of the fleet is the enemy's fighting forces at sea. Until these have been decisively beaten or neutralized large detachments cannot be spared to operate against the enemy's trade, for the effect of so doing would be the weakening of our forces in the decisive theatre and a possible disaster at the hands of the concentrated enemy. The offensive is the strongest form of defence, and it is to the gaining of superiority over the enemy's main naval forces that we must bend our energies from the outset of the war.

What is to be the attitude of the Air Force to these questions? Compared with the Army it cannot occupy disputed territory nor can it capture a capital—in the latter case, however, it can dislocate its life and make it untenable.* But aircraft for extended bombing services must sacrifice something of their power of offence or defence against enemy air attacks. Whatever may be the developments of the future, the machine whose rôle is confined to fighting other aircraft will always possess an advantage over an opponent which has to compromise its fighting qualities in order to be able to carry out an offensive against ground targets. The Army which can capture a town is equally efficient against the enemy's forces in the field, and the Navy can cause destruction on the coast with the main weapon used in opposition to the hostile fleet; the Air Service does not possess these advantages. Thus we are forced to the conclusion that, while the enemy's air fighting forces are undefeated or un-neutralized, attempts to break our opponent's will by air action are bound to fail.

But we must carry the parallel further. In the case of the Navy we have seen that the importance of overseas trade necessitated some consideration as to whether it did not constitute a legitimate objective for attack. Air traffic, on the other hand, for some years to come, will be small in volume, and the expense of aerial transport will probably render it always, in a sense, a form of "luxury" traffic, non-essential to the life of a nation. Further, though air routes will exist, the approaches of aircraft to the coast of an enemy country will not be confined in the way that sea routes are constricted by the configuration of the coast. Thus aerial traffic will be both harder to interrupt, and a less legitimate object of attack by fighting air forces.

We have seen how, under certain conditions, a superior Navy can blockade an inferior fleet and even though under modern conditions the blockade is "distant" can render it harmless, but the Air Force cannot blockade the opposing air fleet in this manner. No obstacles confine our enemy's exit from his base, and once he is in the air, his interception cannot be guaranteed—his fleet cannot be neutralized. The first objective for our aerial forces must thus be to seek out the enemy's main Air Force and destroy it on the ground or in the air, or at least handle it so roughly that it is incapable of serious offensive. Once this supremacy of the air has been gained, our aircraft will meet with little opposition in their efforts to break the will of the enemy on the ground, or interfere with his highways of commerce on the sea, in the air, or on the ground.

An aerial campaign will thus proceed on definite lines, but it must not be presumed that on the declaration of war the aircraft of the opposing forces will be in a position to fly at one another's throats; this is a false conception in view of the technical peculiarities of present aircraft. The light craft of short range is *at present* the most formidable fighting unit in the air (in contradistinction to the capital ship at sea) and in order to bring these craft into a position to fight the enemy it will often be necessary at the beginning of an aerial campaign to seize a suitable base from which to operate. Thus a "combined operation" to seize and protect this base will often be the opening move of a campaign during which the rôle of the older Services will be to protect the base and the communications thereto with a view to assisting the main aerial offensive.

[NOTE.—The limitation thus imposed on the effectiveness of an aerial offensive is so great that we may expect to see the naval parallel followed in the air: the main type of fighting aircraft may in future be the aerial battleship of considerable gun power, long endurance, and heavily protected; while the present fighting aircraft will fall into their true rôle of mosquito craft.]

V.—THE SELECTION OF THE THEATRE OF WAR AND LINES BY WHICH TO OPERATE.

The decision as to the rôle which shall be played by the armed forces of the State and their objective having been arrived at, the next consideration for the military strategist is the theatre of operations.

At the outset political considerations must inevitably carry great weight, for an operation in a distant theatre may uncover the home bases, with the attendant risk of popular outcry, or alternatively the selection of a given area may encourage a neutral State to throw in its lot with one or other belligerent. Such arguments cannot be overlooked, but the less the choice of a military commander is interfered with by political measures, the greater the chance of success.

Our next consideration must be the convenience and security of the base; large armies must be protected while mobilizing, hence the area of mobilization must be well removed from possible contact with the enemy.

To move these armies forward great facilities for their transportation are required; a single division takes at least eighty-two trains, it must therefore be obvious that good railways are one of the governing factors of the strategy of modern armies.

But the railways are highly vulnerable, and the troops travelling thereby are not in a position to come readily into action; as the enemy is approached, therefore, the railway must be deserted and the army must march. Many and good roads are therefore the next factor.

But there must also be many roads—an army of 100,000 of all arms, marching on a single road might extend to fifty miles; the rear of the column would thus be three days' march from the front.

Since the enemy's forces are our primary objective the position of these is obviously a factor to take into account—the influence this has on the selection of our area for operations is more fully dealt with in the chapters that follow, since it is in the threat to his communications that strategy so largely consists.

Lastly, but not least important, topography and climate must largely influence the selection of the theatre of operations. A mountainous region will complicate the problem of supply, constant rain can defeat the best laid military plans, heat and cold have each their retarding effects on armies recruited from a temperate zone; these and other factors may not be ignored.

Turning to the naval side, we find that naval strategy is subject to political influence in the same way that the Army is affected. In the Spanish-American War the actions of Cervera's Fleet were dictated more by policy than by naval opinion; while the Americans were compelled to keep a portion of their fleet in Hampton Roads, owing to the reaction on the politicians of the clamours of a nervous coastline populace. For the rest the convenience and security of the main and subsidiary bases and the position of the enemy's forces remain primary factors, but the Navy is independent of roads, railways and topographical considerations, while fog is the only serious climatic factor. The chief effort of naval strategy, i.e., to bring superior forces to the decisive theatre, will normally be but little hampered by any of the considerations which influence the movements of an army.

When purely aerial operations are considered, the political factor is likely to prove of even greater moment than in the case of a Navy or Army. The "ubiquity" of aerial forces confers a large power of selection of targets, and the politician beset with difficulties, with new enemies to be attacked, and wavering neutrals to be impressed, will wish to take advantage of it. It is plain that a Service to which all points of the compass are the same, which is little tied by lines of communication and less by forces already deployed, will remain peculiarly subject to this form of interference.

Beyond this we have popular outcry in its acutest form, for the moral effect of bombardment from the air may be felt over a considerable area of country. The tendency will always be for the populace to demand that aircraft should work on the close defensive, and their despatch to operate in a distant, even if decisive, theatre will find plenty of opponents. The situation is aggravated when the distance between the belligerents is greater than the normal range of aircraft, and operations have to be carried out from temporary bases seized and defended, on behalf of the Air Force, by the older services. But as in the case of the Army, air strategy must be made as independent as possible of such interference, and principles alone should decide the suitable theatre of employment of our aerial forces.

The convenience and security of the base and its position with regard to the enemy forces should be a primary consideration. This "base"

will be a considerable area approximating to the base of a large army rather than the single anchorage which serves a formidable fleet; for inasmuch as the attack of the enemy's aerial forces has been shown to be the primary objective of each belligerent, and in view of the fact that such attack will often be carried out against the opponent's air forces and bases *on the ground*, it is undesirable that too many units be grouped in a restricted space. The speed and range of aircraft which permit of almost instantaneous combination to fight, with the power to live dispersed, gives the Air Service considerable advantages over an army in this respect; the balance between these two desiderata, which is so constant an anxiety to an army leader, is a less critical problem for the Air Officer Commanding.

[NOTE.—It must not be inferred from this ability to live dispersed that the *tactical employment of small detachments* is sound in principle. A reasonable dispersal of formations and units for purposes of safety and ease of supply must not be confused with the loss of strength caused by small and distant detachments.]

With regard to railways and roads, it is true that the base area cannot be too well served in this respect, but beyond this the range of aircraft confers independence of roads and railways until a new base in a forward area has to be set up. In many wars this will be unnecessary for the Air Service, and to this extent the air strategist has the right to look on roads and railways as matters of minor importance. Improvements in commercial airships and weight-carrying aeroplanes tend to increase the independence of aircraft of surface conditions, in as much as they will render it possible to maintain considerable Air Forces by means of aerial supply routes.

Climatic considerations are a matter of some importance to the air strategist, but they have a limited influence compared to the effect they have on land operations. All-metal aircraft will in time be available which will withstand extremes of heat and cold, and already the increasing power and reliability of engines permit of flying under the most adverse conditions of temperature and altitude. Further, weather is, from an air point of view, local—for example, rainstorms which will turn the ground for fifty miles into a quagmire and hinder or prevent the movement of troops, are only unpleasant incidents in a flight of 250 miles; they can often be avoided altogether at the expense of a slight detour in direction or altitude. Again, such small effect as they have is temporary and (provided that the aerodrome is well drained) passes with the cessation of the storm; the effects of rain, from the point of view of land troops, may persist for days after the actual fall has ceased. Clouds may appear to cause more trouble to aircraft than to ground troops, but increased experience and improved facilities for navigation are already such that aircraft can pass through clouds and, by the aid of directional wireless and other navigational aids, attain their objective above them, and, in so far as the cloud banks form a screen against ground observation, they present some positive advantages. In short, while low clouds present a difficulty

to aircraft employed in close co-operation with ground forces, the air force engaged in aerial operations is little hindered by their presence.

Fog alone is a real enemy to airmen as it is to sailors, and an area noted for the prevalence of fog should be avoided as a theatre of aerial operations. It is not that fog is a danger to aircraft in the air, for it is invariably low lying, and can be flown through to the clear air above, but its presence makes landing a dangerous operation. Science will no doubt assist with fog-piercing rays, etc., and will minimize the danger, but a danger it will for long remain and as such should be avoided.

Lastly, topography of the country is mainly a concern of the Air Force only when it is in an exaggerated form. In the early days of flying it was all-important in view of the frequent landings forced by engine failure; these are rapidly becoming a thing of the past, and it is only when the formation of the country becomes a positive obstacle that it need enter seriously into our calculations. Thus a stretch of desert or sea broader than the radius of aircraft action, or ranges of mountains which necessitate a "ceiling" difficult to attain by heavily loaded aircraft, are positive obstacles to aerial action, but beyond these obvious considerations topography is hardly a serious factor in aerial plans.

A Service so free from limitations of communications, climate and topography, and which can operate over both land and sea, is plainly of itself a most formidable weapon in the hands of a nation; it is no mere adjunct to an existing Army or Fleet tied to their respective elements and restricted by a complex strategy.

VI.—ON STRATEGIC POSSIBILITIES.

Strategy is the art of making war upon a map; it aims ultimately at bringing superior forces to the decisive theatre. There are two main ways in which strategy may direct the forces in the field to achieve its objects:

- (1) It may menace or sever the enemy's communication with his base.
- (2) It may break the lateral communications between the various portions of the enemy's front.

It will be seen that both these methods aim at the enemy's communications. Modern armies are peculiarly sensitive to their rearward communications and the situation will often arise out of this eagerness to sever the enemy's connection with his base, when both armies will find themselves "fronting to a flank"; in this case history shows us that victory always lies in the hands of the commander who can first make the enemy feel the weight of his attack on his opponent's communications. In theory the enemy who finds himself in this position may counter by attacking the same weak spot in his opponent's strategical dispositions, but in practice the super-sensitiveness of a modern army as to its rearward communications will invariably lead to the abandonment of the initiative which might be conferred by the counter move and

a concentration by the enemy who first feels the threat, to protect his own "heel of Achilles."

But though the turning of an enemy's flank to cut him off from his base may increase the *consequences* of success, our first aim must be to increase the *probability* of success, and, looked at from this point of view, the piercing of the enemy's front will often offer us greater advantages. To turn the flank is to force the enemy to concentrate, to throw the threatened wing of his Army back on his centre, and thus bring the attack up against stronger forces as the battle progresses; to pierce the front tends to separate the opponent's Army into separate portions, giving the attacker the option, by virtue of his central position, of concentrating against each portion in turn and destroying it in detail.

The great German attacks early in 1918 are good examples of attempts at this form of strategy; by attacking at the junction of the French and English Armies at Amiens our enemy aimed at separating us; had his drive been carried out as planned, and Amiens and perhaps Abbeville fallen, he would have thrown the British back on the Northern Channel ports while the French Armies remained based on Central France. That the German plan failed may have been due to the fact that, led away by the desire to exploit an easy initial success by a false or holding attack in the north, the German Staff added to their original objective the project of making a drive to the Channel ports. This operation really comes under heading (1)—the separation of an army from its base; as such it was certainly a legitimate objective. Why, then, did this plan, too, fail?

The answer to this question is found in another principle of strategy, which is bound up in every operation, namely, the concentration of superior forces at the decisive point. It is useless to turn an enemy's flank or pierce his front, unless prior to so doing or as a result of the initial success, a commander can ensure a superiority of force in the decisive area. The Central Powers in the case taken above were in insufficient strength to be able to attain two main strategical objectives. Concentration of purpose, personnel, and material is necessary to fight.

Thus it may be taken as an axiom that separation of one's forces while in the proximity of the enemy is always dangerous. Such a course may be forced on a nation by political arguments or the presence of more than one decisive point, but this strategy is little likely to lead to success unless the forces employed are considerably superior in their totals to those of the enemy. Modern improvements in communication (e.g., the telegraph) lessen the difficulty of using divided forces for concerted action, and modern transportation methods by railway and motor transport lessen the consequences of division. On the other hand, the size of armies of the present day discounts to a considerable extent the increased power for movement that railways and roads confer, and where time is a factor, as it almost always is, it will still remain far from easy to remedy the consequences of false movements in the field.

Examining the naval aspect of these questions, we find that Mahan tells us that communication dominates war. The sea forces are less sensi-

tive to their "communications" than land forces for the reason that fleets carry with them their whole supplies for long periods of time, whereas armies require almost daily an uninterrupted flow of necessaries. Still ultimately on sea, as on land, it must be possible to get in touch with the base or bases, to renew supplies and munitions. The chief value of "a fleet in being" lies in the fact that it is a threat to the enemy's sea communications. In 1898, when Admiral Cervera's fleet was blockaded in Santiago, the report that at least one of his armoured cruisers had slipped out compelled General Shafter's land expeditionary force to delay its departure. A nation ill provided with sea bases is in the position of an army with a single line of communication, and the enemy may place his fleet before that base and force a conflict. We have thus in naval action a parallel for cutting an enemy's communications, but in strategy, *as opposed to tactics*, the piercing of his front is hardly a consideration. Fleets are concentrated bodies with great freedom of movement and a force strategically divided may, provided bases are available, manoeuvre round the enemy to re-unite. But the one great axiom of land strategy to concentrate superior force in the decisive theatre is as true in naval warfare as ever it was in military operations—nothing must obscure this fact. Indeed, in naval warfare strength has an altogether added importance owing to the lack of delaying power in inferior forces and the impossibility of using obstacles or accidents of the ground to compensate for inferiority in strength, i.e., gun power. Thus naval strategy is broader and simpler than military strategy—there is less opportunity for finesse, and sufficient strength at the decisive point is the only consideration. The Russians in 1904 had an entirely faulty conception of naval strategy. Their Eastern Fleet was inferior to the Japanese—by withdrawing it and linking it up with their Home Fleet they could have, after delay, attained a considerable superiority in numbers; but the Russian High Command was obsessed by the value of the fleet in defending Port Arthur, a position of great importance and an obvious object of attack to the Japanese; they permitted it, therefore, to be shut up and ultimately destroyed there, and sent Rodzhestvensky to meet a similar fate in the Battle of Tsushima. In other words, an inferior fleet was permitted to defeat in detail the naval forces of a superior Power.

History gives Great Britain a clear lesson in this case, and it is to be presumed that the importance of Hong Kong would not lead us to expose a weak Eastern Fleet to be drawn into action against the whole naval forces of Japan.

The naval, like the military, strategist will recognize the value of singleness of purpose. Rodzhestvensky at Tsushima had no such single purpose. He found himself at the mouth of the Yangtse south-east of Japan—he knew the whole Japanese Navy stood between him and his new base Vladivostock, which he desired to reach *with his supply ships*. He would almost certainly be compelled to fight, and he should, therefore, have made up his mind to do so unhampered by a convoy or by any other thoughts than an efficient array for battle. If he won, the supply ships

could be convoyed to their destination ; if he lost, their presence would be of no value. Instead of this firm attitude of mind, he seems to have been divided between the two opposing councils of escape and fighting ; he overloaded his ships with coal, hampered himself with transports, and eventually was brought to battle by the concentrated Japanese Fleet under the most unfavourable possible conditions and paid the penalty of his uncertain strategy.

What, then, are the lessons we must draw for air strategy from the naval and military considerations outlined above ?

Unlike the Navy, the Air Force cannot carry with it its supplies and technical stores for a protracted period ; is it, then, like the Army, chained to its communications ? A little thought will show that this is not the case. All three Services are alike in that they require that their base, whether main or advanced, be secure, and that there is freedom of communication thereto from the whole area from which the sinews of war are drawn, but here the resemblance ceases. The Army is the most dependent on its "communications" used in the truest sense of the lines forward of the bases, since from the base to the individual unit in the firing line communication must be constant. The Navy is less dependent on this constant communication since it can carry stores and supplies for a prolonged period, but the fleet must ultimately return to a base by a certain more or less defined route and that is liable to interception by a hostile fleet. In the case of the Air Service it is true that supplies and munitions are not carried for more than a few hours' use, but during these few hours there need be little thought of the direction of our base ; our communications are too indefinite to cut. Thus we gain little strategic advantage from outflanking our aerial enemy by comparison with that attained on land or sea. The freedom of movement in the air, when opposing forces can and will manœuvre tactically around one another like boxers in a ring heedless of their respective corners, brings the strategy of our air officers to a problem of the simplest terms, i.e., to bring from a secure base or bases superior forces to the decisive theatre. There is no other responsibility, no such alternatives as may breed doubt in the mind of the military commander and prevent him from making movements which he would otherwise gladly carry out ; the air commander can strike where and when it is desirable.

VII.—ON FRONTIERS, OBSTACLES, FORTRESSES AND DETACHMENTS : WITH REFERENCE TO THEIR DELAYING POWER.

It has already been stated that time is the essence of all strategic combinations in war. To gain time is, therefore, one of the great pre-occupations of a commander. It has been shown how plans for mobilization, railways and roads, effect the initial gain or loss of time ; we now have to consider the various factors a commander in the field has to consider, with a view to such gain when contact with the enemy is imminent or established.

The first consideration is the contour of the frontier. Provided always that salients or re-entrants afford sufficient space for the movements of the forces, the deciding factor is the position of the base. If the base is situated within the salient the army possessing that base has the advantage of interior lines, and can, other things being equal, concentrate more quickly at any portion of the salient than an opponent moving on exterior and, therefore, longer lines.

Looked at in this way, the German front in France was a large salient, with its point on the Aisne at Verdun, and this proved of immense value to them throughout the War. On the other hand, a salient of which the base is outside the same is a source of weakness; the greatest advantages of interior lines are lost and the forward *communications* of the force occupying the salient are threatened from either side. The St. Mihiel salient is an excellent example of this, and the Germans admitted that, with more experienced troops than the Americans against them they would probably have lost the whole of their forces in that theatre in 1918. We thus see that wide salients within which bases can be established are a source of strength, while narrow ones, traversed only by lines of communication, are a danger.

The next consideration will be the topography of the country, with a view to reckoning its value considered as an obstacle. The value of obstacles lies in the delay they may enforce on an enemy. They give their possessor an increased power of offensive in the chosen theatre by enabling him to hold less decisive frontiers with a minimum of troops, they can be used to cover a movement to a flank, they afford a screen under which to rally a force or to enable a beaten army to get clear, or they may be used on the defensive to hold a long line until reinforcements can be moved to the point on which the enemy's main attack is directed.

Rivers, lakes and mountain ranges are the chief obstacles of value to military commanders, and are best used as an observation line to retard the enemy and limit his avenues of supply after passing the same. The most favourable time to attack him is after he has debouched into the plain after crossing; if this is done the result may be far reaching, as is seen in Hindenburg's successful campaign in the Masurian Lake district of East Prussia, in 1914-1915, and in the repulse of the Austrian invasion of North Italy in 1917.

Fortresses must be considered in the same light as obstacles, among which indeed they are best placed. They are useful to a weak or unready nation, as they can utilize second line troops, and, if properly defended, can exercise a very considerable delaying action on an enemy's army. The instance of Verdun will be fresh in the memory of everyone, and also the value of the few days delay caused in August, 1914, by Liège. But care has to be taken that they are not allowed to be a fatal attraction to field armies, as at Sedan, in 1870, a mistake the Germans hoped that the British would repeat at Mons, in 1914.

Intimately bound up in this question of obstacles is the value of detachments. Detachments used as containing forces have been said

to be "the most effective weapon in the military armoury." This is so far true that it is by means of small detachments utilizing obstacles to their full that commanders may hold off the enemy at certain points, while concentrating for and fighting a decisive action in the chosen theatre. Their value is also to some extent dependent on the military condition, under which it takes time for forces to deploy from line of march into battle formation; a small detachment can therefore delay the head of a column for a considerable period before overwhelming forces can be brought to bear on it and force its retirement.

Containing forces only justify their existence if the time they gain permits of a decisive action being fought without interruption, and also if their action detains greater numbers of the enemy. Should the latter proviso not be fulfilled it is obvious that one has lost rather than gained by the policy pursued, and it follows that detachments must act with energy and not adopt a purely passive role.

If we turn to naval warfare, we find that natural obstacles are, in general, non-existent. As a consequence of this, when action is joined the weaker force cannot make up for its lack of strength by any accident of the terrain; it becomes a straight fight of gun against gun, and the superior force will win. It is thus extremely doubtful whether containing forces in their truest sense have any place in naval strategy, but a weaker force may send out detachments to bombard suitable areas on the enemy coastline, or to threaten his trade routes, in the hope that the enemy may be thereby induced to weaken his main fleet in order to meet the distant threat. Under normal circumstances he will be inclined to send a stronger force to pursue the raiders, which will thus fulfil their mission of containing superior numbers. We may instance the example of the Battle of the Falkland Islands, where a fleet of superior battle cruisers was essential to wipe out the German Far East detachment. Again, each of the German commerce destroyers, like the "Emden," diverted superior forces before they were finally destroyed, while the submarine *guerre-de-course* took up the energies of many of the lesser units of our fleet.

It is to be noted, however, in the case of submarine warfare, that the general balance of the main fleets was not affected, so that inasmuch as the moral and material effect against our merchant shipping failed to bring the Allies to terms, the "detachment" may be said to have been false strategy. Granted that their main objective was the British Fleet, it is at least debatable whether the Germans would not have done better to have drawn this out of Scapa Flow by a demonstration like that of Jutland in the North Sea, and then used every available submarine against it to try and redress the balance of power. It is probable, therefore, that the war on merchant shipping is another example of the influence of politics on war.

As a last example of the difference between detachments in naval and land warfare, it must be recognised that on land containing forces are not necessarily, nor indeed normally, sacrificed; after fulfilling their

rôle of delaying and containing the enemy they are enabled to withdraw and possibly concentrate on their main forces. At sea on the other hand, every detachment runs a serious risk of being brought to battle and overwhelmed. Thus it may be inferred that if detachments are inadvisable in land warfare they can seldom be justified at sea.

It is now necessary to turn to Air warfare. With regard to frontiers, a secure base within a wide salient is certainly very desirable, as it makes the greatest area of enemy territory liable to aerial attack. A base within a narrow salient is objectionable as it can itself be with difficulty rendered secure against surface or air attack, but if the base is outside the salient definite danger no longer exists, as in the case of the army with its forward communications, and a small advantage is gained by reason of the extent of the friendly territory which juts out as a refuge into the enemy's country. Advantage may, therefore, be taken by the Air Force of most kinds of frontier.

With regard to obstacles, the sole natural obstacles to the movements of aircraft are large expanses of ocean or of desert or the highest mountain chains. With the ever increasing range and power of all types of aeroplanes and airships these obstacles are rapidly disappearing, and it may be safely said that the aerial strategist may largely ignore these factors, which influence so greatly his brother in the Army, and, to a lesser degree, the naval commander.

Delaying action in the military sense is impossible, and to attempt this will only court disaster. The prospects, however, of gaining considerable effect by the dispatch of raiders are possibly greater than in the case of a navy. It is true that aerial commerce may be absent as an objective, but, on the other hand, attacks may be made on any military objective of the enemy within the radius of effective action, and are not confined to the sea or to coastal towns. A whole population may, therefore, be terrorized and considerable popular outcry created by raiders of great speed and endurance. Their goings and comings are limited by no accidents of coastlines or narrow seas, and their prevention will be correspondingly difficult. It will be necessary to educate the population to recognize that the real antidote to such action is an unremitting offensive against the enemy's air forces and aerial bases; the destruction of these will bring to an end all spasmodic raids, but if demand for defensive measures at home be permitted to divert considerable detachments of our main air fleet from its true objective the enemy will have attained his object, and may be enabled to achieve or dispute the mastery of the air, which should rightly be secured by the stronger force. If the former should happen, no defence measures will avail, for the defending detachments will be overcome in detail, while if the supremacy of the air is contested with any measure of success no decisive result can be obtained in forcing the enemy to submit to our will. The dangerous position which inferior air forces may bring about is very real, and the air strategist must be forewarned of the same; the need for strength and determination in the air commander is thus greater

even than that required of a military or naval officer, and in the hands of a man of indecision the strongest of air forces may fail.

VIII.—ON INVASION.

To a Continental Power the prospect of invasion is a matter which is intimately considered in fixing the strength of the field and national army, and its probability or otherwise is linked up with the power of speedy mobilization, the delaying powers of the field army aided by obstacles and fortresses, and the ultimate strength of the forces which can be brought into action. To an island nation the possibility is more remote, and has in the past been largely bound up in the power of the fleet. Invasion from overseas can only be conducted by means of transports; these are of themselves vulnerable and, while embarked on them, the army has little or no power of resistance.

Transports even compare disadvantageously with railway transport in this respect, and the latter has been shown to be so vulnerable that it has to be abandoned when in proximity to the enemy and resort had to roads.

If modern methods, such as the introduction of steam, would appear at first sight to have simplified the problem, it must be remembered on the other hand that the increasing technicality of war has heavily weighted the balance in the opposite direction. Invasion nowadays does not consist of landing a body of armed desperadoes from open boats—an army of this sort would be speedily disposed of by the defending forces. The embarkation of a force of reasonable size demands the assembly of transports, suitable quays for the embarkation of troops, transport, guns, tanks and all the impedimenta of modern war. Its first landing may indeed be made on the open beach, but the troops concerned will only be in the nature of a covering force, who will seize a suitable base with the requisite quay accommodation for the landing of bulky technical supplies. A force of six divisions and one cavalry division, crowded for a voyage of a few hours, would require 120 vessels with an aggregate tonnage of 600,000 tons—a formidable undertaking. Even presuming that all went well and the force was safely landed, its maintenance in ammunition and other technical stores is essential to other than fleeting operations.

It follows, therefore, that invasion on a serious scale of an enemy country can in no wise be contemplated by a nation until the command of the sea has been secured at least for the period anticipated for the projected operations. This command may be obtained by naval action or conceivably by the use of large numbers of offensive (e.g., torpedo carrying) aircraft; but the possibility of the use of these again has been shown to be dependent on the command of the air. With regard therefore to supporting invasion on a large scale, the air forces are, as always, concerned primarily with the defeat of the enemy in the air. But a nation is concerned not only with the dispatch of overseas expeditions but with

their repulse, and in the past responsibility for this has been divided between the Navy and Army. This is, however, an operation in which Air Forces can be of peculiar service. Whatever may be the power of air action against armoured ships, there is no doubt as to the result of the air torpedo and bomb against lightly hulled transports on the water, or against troops caught in the act of disembarking; and aircraft can be concentrated in the briefest time to wreck the attempted invasion. To the proviso that the command of the sea must be secured before the invader can be successful must therefore be added a further essential, that the air supremacy must also be attained. The rôle of the Air Force in support of, or in defence against, seaborne invasion is therefore clear: it must first ensure aerial supremacy and can then turn its attention to the defeat of the enemy's surface craft—in other words, its objective, as ever, is the enemy's forces in the air.

We have now to consider the question of "raids." Such raids will, when carried out on civilized countries, normally approximate to raids on mercantile marine by armed vessels, i.e., they will be designed to do as much damage in as short a time as possible, and to create the maximum moral effect; the nation dispatching them would be resigned to their probable ultimate loss. Under circumstances where a portion of a nation is dissatisfied with its government and ready to break away from its control, a raid may do lasting damage, since a small invading body may become the focus for a general rising. Under these circumstances the danger to be feared from raids is immeasurably increased, and in as much as their dispatch requires no great preparations, and reliance is placed on secrecy and evasion rather than on force, there will always be a possibility of their being effected.

Whatever system of patrols, searchlights, etc., is adopted a guarantee cannot be given against a raid, either sea or air-borne, provided that the nation undertaking the same consider the value of success, if gained, outweighs the probable loss of the raiding party; such a raid must almost necessarily be made under cover of darkness. Now as regards landing of raiding parties from the air, the use of heavier than air craft at night is a formidable undertaking which offers little prospect of success. A prepared aerodrome, landing lights, etc., would be required and the difficulties are so great that, apart from *coups-de-main* against aerial bases, there is little likelihood of this method being adopted. Lighter than air craft are a very different consideration, as will be realized when it is stated that R.80, now under construction, could carry for a short voyage of, say, 1,000 miles, 600 infantrymen with machine guns, ammunition, and food. Further, with adequate local knowledge and favourable weather conditions, several airships of this type could drift silently downwards on any suitable deserted stretch of open country, land the raiding parties, and still have a fair chance of getting away. The destruction of the enemy's lighter than air bases is plainly the best insurance against such an action—an unremitting offensive aimed at the enemy's air forces is our one legitimate strategical objective.

IX.—CONCLUSION.

A brief reference must be made to the subject of tactics before hastening to a conclusion. It has been said that tactics without strategy is as a man without legs; strategy without tactics is as a man without arms.

The interdependence of strategy and tactics is largely a matter of the time factor. In the days of Napoleon a battle was normally a matter of a few hours; it was this fact that enabled so many simple strategic movements to achieve success, for it was sufficient to gain a few hours on the enemy to enable him to be taken at a disadvantage. In modern warfare matters are very different—the fact that tactical action may extend over several days before success is gained alters the whole course of our strategy; it does not mean that it is of lesser importance, but that the methods used to gain our ends are different. Whatever the developments of the future may be, we can never on land look forward to the possibility of achieving complete success in any operation of magnitude in the course of a few hours by land forces used alone.

Naval warfare has shown no such change towards "indecision"; indeed, the replacements of sail by steam and the great power of the modern gun tends to the opposite direction, and action may be joined and decisive results obtained in quicker time than was the case formerly.

Dominant air power will not only effect similar speedy results in the air but will infallibly upset the old time factor in land and possibly in sea warfare; in this is the secret of the great influence it will have on modern war.

In the moral and the time factor lies the essence of strategy; air power alone can force the moral home to the humblest citizen with a speed uninfluenced by factors which impose incalculable delay on forces operating by sea and land. A State unwilling to maintain strong aerial forces may indeed "ask for anything but time," for that will not be granted; it will be compelled to submit in the briefest period. This is the lesson of air strategy and we would do well to study it and develop that air power which is essential to our salvation.



WITH THE MURMANSK EXPEDITIONARY FORCE.

November, 1918, until the withdrawal.

By LIEUTENANT W. K. M. LEADER, M.C., D.C.L.I.

Kola Gulf, being the only harbour in Northern and Western Russia which is not ice-bound in winter, was a valuable asset to Russia during the late War. The harbour, which was little used previously, was joined to the internal railway system of the country by a military line commenced during the earlier part of the War and completed in 1917. With the completion of the railway, the town and port of Murmansk sprang into being.

Murmansk was first used for the conveyance of military stores, sent by ship from England, to the Russian Army, but following upon the Revolution it became a menace, in that it formed a favourable base of operations for German submarines which might be brought overland by railway. Consequently, in June, 1918, a small British detachment was dispatched to protect the port and the stores which were there. The detachment was followed in November by larger reinforcements, and the protective duties developed into active assistance of the loyal inhabitants, who were endeavouring to co-operate with Admiral Koltchac, then in the Viatka area, in overcoming the Bolsheviks.

This article commences with the arrival, in November, 1918, of a Brigade of Infantry which was amongst the first reinforcements. It does not purport to be a full account of the Campaign, and undoubtedly much of the good work performed by individuals and Departments has been omitted, partly through ignorance of the facts and partly owing to lack of space. For such omissions the writer craves the pardon of those who may be affected.

CHAPTER I.

ARRIVAL ON THE MURMAN PENINSULA.

FROM information which had been given to us before leaving England, we were under the impression that we were about to participate in a campaign resembling, in many respects, an Arctic expedition. We had been told that not only was the cold intense and the snow perpetual, but during two or three months of the winter the whole area was in continual darkness. We were also led to believe that there were few habitations and that we should probably have to live more or less in the open.

It was with the keenest interest, therefore, that we steamed up the Kola Gulf one day late in November, 1918. On either side of the narrow gulf were high hills, barren excepting a thin layer of leafless shrub on the slopes bordering the shore, covered with a comparatively thin layer of snow. Instead of being intensely cold, the atmosphere was merely that of a brisk frost. The light, although then 11 o'clock

in the morning, was gloomy, having the appearance of twilight combined with a light fog. First impressions were more agreeable than had been anticipated.

At 2 p.m., when the light was somewhat clearer, we went alongside Murmansk Quay. This was a structure of no mean size which would accommodate at least three ships of about 9,000 tons; various railway tracks extended to the quayside, and were mostly full of closely packed rolling stock. The quayside was stacked with a considerable mass of stores of various kinds, sandbags, wire, and parts of Nissen huts predominating, still in the positions into which they had been unloaded from numerous ships, and generally frozen together with snow and ice; these took up the whole available space beside the ship, excepting gaps left to correspond with the fore and aft hatches. At neighbouring wharves was a variety of shipping, including steam yachts, submarine chasers, trawlers, and smaller craft, whilst in mid-stream lay H.M.S. "Glory" and a five-funnelled Russian warship, the "Askold."

Soon after our arrival, the G.S.O.I. of the force came on board and told us a considerable amount about the situation. We learnt how the small British force (barely more than a company) which had landed in the previous June (1918), ably assisted by a company of Royal Marines who were already there, by locally raised levies and certain Finn troops, had held a German force of several thousand men in Finland, in a state of uncertainty, during those critical months preceding the armistice, when every available German was needed on the Western front. That this assisted in hastening the armistice, there would seem little doubt.

We learnt, too, that there were numerous forces, hostile to one another, operating in the area, and that they were known, for the sake of simplicity, by different colours; those immediately affecting us were the "Reds" and the "Whites." The "Reds," who had established a "Soviet" Government in that part of Russia occupied by them, and had acknowledged Lenin and Trotsky as their leaders, were composed of various nationalities, but were mainly Russian, assisted by a certain element of Finns who had revolted, earlier in the year, against the German aggression in their own country, and had been forcibly thrown out. The "Whites" were, generally speaking, the Allied troops, but included also those Finnish troops which were actually then in Finland. The latter, who had thrown out of their country the "Red" Finns previously mentioned, were pro-German but anti-Bolshevik; towards us they were neutral, maintaining a strict outpost along their frontier and not hesitating to shoot any troops, Allied or Bolshevik, who approached it. It will be seen, therefore, that amongst our enemies, the "Reds," were anti-Germans, pro-Bolsheviks; whilst our "White" neighbours (who later endeavoured to co-operate with us) were pro-German, anti-Bolshevik!

On our side at that time there were, in addition to Departmental services, the company of Royal Marines previously mentioned, a company of Royal Fusiliers, some Machine Gunners, and a handful of Canadians, all of whom had been in the country for some time; three



British battalions,¹ an M.G. company and a T.M. battery which had come with us; and several thousand Russian troops, mostly undergoing training, a company of French Skieurs, French gunners, a battalion of Serbians (veterans who had fought their way from the South), a battalion of Italians, a battalion of about 1,400 "Red" Finns, a large regiment of locally raised Karelians, with a proportion of British gunners and sappers.

The "Red" Finn battalion consisted of a portion of those who had revolted against the German aggression in their own country. With a number of their brothers-in-arms, they had reached the neighbourhood of Petrograd when our advanced force arrived at Murmansk in June. As Germany was the common enemy, arrangements were made to get them all (about 3,000) to Murmansk, and to arm and equip them, to augment our small force. Whilst they were journeying from Petrograd to Murmansk, the Bolshevics established a line astride the railway about Soroka, and consequently only 1,400 arrived, the others remaining with the Bolshevics. Those who reached us were armed and equipped and placed under British and Canadian officers and N.C.O.'s. So it happened that we were fighting against "Red" Finns in the south at the same time as having their brothers fighting with us in the north.

The Karelian regiment, which was also led by British Officers and N.C.O.'s, consisted of several thousand volunteers enlisted from the region, known as Karelia, extending from the Finnish frontier to the White Sea between the neighbourhood of Kandalaksha in the north and Soroka in the south.

The whole force, which was distributed amongst two Brigade areas, was under the command of Major-General Sir C. C. M. Maynard, K.C.B., C.M.G., D.S.O., whose G.H.Q. was at Murmansk. In the north, under Brigadier-General M. N. Turner, C.B., C.M.G., C.B.E., was the 236th Infantry Brigade, which covered the area from Polyarni Krug (on the line of the Arctic circle) to the Murman coast. In the south, under Brigadier-General G. D. Price, C.M.G., was the 237th Infantry Brigade, which covered the area from Polyarni Krug to the south.

At that time we had not only to hold the Bolshevics in the south, but to be prepared to deal with any raids from Finland against our L. of C. In consequence, we had a fairly strong garrison at Petchenga, a small outpost at Restikent, and at almost every point of size on the railway between Murmansk and Kandalaksha were small garrisons. Kandalaksha area, and the safety of the L. of C. in that neighbourhood was entrusted to the "Red" Finn battalion which, besides garrisoning various points on the railway, had outposts at Vabinski, Tolvanto, Tumsa, Ruva, and Kananen, which kept close watch on the "White" Finns. Further south, in the large area west of Kem district, the safety of the line was entrusted to the Karelian regiment. The southern front, which was at that time about the line of Olimpi,

¹ 16th Batt. Yorkshire Regt., 9th Batt. Yorkshire Regt., 11th Batt. Royal Sussex Regt.

was held by miscellaneous detachments of British, Canadian, Serbian, French, and Russian troops.

Such were the general situation, the composition of the force, and the general dispositions when we arrived in Murmansk in November, 1918.

CHAPTER II.

THE WINTER WORK OF THE TROOPS.

Dealing with the Northern Brigade area only.

In the Northern Brigade area the main centres were Kola and Kandalaksha. Murmansk was excluded from the Brigade area, but, nevertheless, closely concerned it in the call for working parties, and is therefore included in this chapter.

Murmansk and Kola.—Of Murmansk and Kola, the former, being the base port, was a veritable quicksand where fatigue parties, guards, etc., were concerned.

The most important duty was the clearing of the quayside. For some months stores and supplies had been arriving in far larger quantities than the meagre number of troops which could be spared for the base could adequately cope with, and, in consequence, although these stores were sent south as rapidly as possible, the quantity on the quay had increased rather than diminished.

Next, and hardly less important, was the question of accommodation. This was quite inadequate, and the sudden influx of a few hundred troops would have presented a considerable difficulty. At the time of our arrival, the C.-in-C. himself, and his H.Q. staff, had only just been found accommodation in the town, having previously lived and worked in a train; and numerous Departments, Messes, and a host of civilians were still accommodated in trains. Not only was this most unhygienic, but the drain on rolling stock could be ill afforded, and consequently building operations had to be pushed on rapidly.

The provision of guards also tended further to reduce our numbers. As many of the inhabitants were not only dishonest, but also anti-British, all R.A.S.C. and Ordnance stores, Pay Offices, H.Q.'s, and billets, in which a base port abounds, had to be unusually strongly guarded, as well as a number of political prisoners who were under arrest.

In the same category came train guards. Pack trains, which left Murmansk fully loaded, frequently reached the south deficient of a considerable amount of their stores. Consequently, train guards had to be increased to as many as an N.C.O. and eleven men with each train. As there were three pack trains per week, and each train took at least a week to go to the south and return, there were always at least fifty men away on this duty. Incidentally, this number was inadequate to counter the wiles of the thief.

The above are a few of the more important duties of the troops at Murmansk and Kola during the winter. In addition came the countless base, garrison, and regimental duties, which included the never-ending

tasks of hewing logs for fuel, and drawing water, by sleigh, from the river for drinking and ablution purposes.

As the available working strength of the two garrisons consisted of approximately one British battalion plus one and a-half companies, one Italian battalion, and two batteries of gunners, with a small proportion of sappers, these duties were extremely heavy. It must be remembered, too, that they were carried out under extremely cold conditions; snow was thick on the ground, the temperature varied between freezing and -39° Fahrenheit, and any materials which had been left in the open were well frozen together and into the snow. The penalty, under such conditions, of allowing the naked hand to come into contact with exposed metal is well known. Woollen gloves were generously issued, but they soon wore through in the heavy work, and the demand was greater than the supply which could be maintained. The vagaries of the sun were also very trying to the majority; in November it disappeared from view, not reappearing until the third week in January, with the result that throughout December there was little more than three hours' daylight each day, and the remainder of that period was little brighter.

Between the two garrisons there was little to choose in the arduous nature of the winter work. Troops living in Murmansk had the advantage of being near their work, which gave them more free time, but were under the disadvantage of living in a dirty, squalid village in which a large number of the inhabitants were openly hostile. Troops living at Kola had to rise early and, leaving Kola about 7.15 a.m., proceed by a cold, unheated train the half-hour's journey to Murmansk, where they worked all day, returning by train leaving Murmansk at, nominally, 4.30 p.m., which meant any time up to 6 p.m. By the time they had reached their billets, and had had a meal, they were generally ready to retire for the night, preparatory to their early rise on the following morning. These troops had little leisure, but they lived in a better atmosphere, in a cleaner, healthier village where the inhabitants were mostly friendly, advantages which they fully appreciated, especially on Sundays, which were days of rest.

Kandalaksha.—The Kandalaksha garrison was well occupied, throughout the winter, in looking after its own needs. Building, drawing water, hewing wood, unloading trains, and similar duties kept everyone busy.

Other Detachments.—Whilst the troops at Murmansk and Kola were longing for a respite, there were others, at Restikent, Loparskaya, Imandra, and on other small outposts and L. of C. guards, who would have liked nothing better than a spell of hard work to break the monotony. Restikent was especially noticeable; the minute garrison of eight men, under an officer of the M.G.C., had been in that remote outpost, nearly thirty miles from civilization, since the previous June. Owing to the difficulty of reaching it, visitors were very rare, and this unfortunate little party had to find what amusement they could amongst themselves and about a dozen inhabitants. The other small garrisons

were similarly situated, excepting that they were mostly either on the railway or near it, and were more frequently visited.

With heavy duties, and with a severe shortage of reading material consequent upon the irregularities of the mails, there being sometimes two months between deliveries, the problem of recreation and amusement for the men was ever uppermost in the minds of Commanding Officers. Football, on snow-trodden ground, tobogganing, and skiing were amongst the outdoor arrangements, whilst indoors were excellent recreation rooms in which were held cinematograph shows, concerts, band recitals, dances and whist drives. The band of the Italian battalion was in great demand and much appreciated, and a travelling concert party of the 6th Battalion Yorkshire Regiment was enthusiastically received.

The clothing of the force, under the extreme winter conditions, needs brief mention. Special clothing was provided and was issued in three scales, Mobile, Semi-mobile, and Sedentary, according to the nature of the work to be performed by each individual. The Mobile scale consisted of windproof blouses, trousers, hoods, and mitts, worn over a sweater and the warmest possible underclothing, whilst on the feet were large, leather-soled, canvas boots. The Semi-mobile scale was similar to the Mobile, excepting a reduction in the quantity of underclothing and the substitution of woollen mitts and a fur cap for the windproof mitts and headgear of the latter. The Sedentary scale included the boots and fur cap of the Semi-mobile scale, but in other respects consisted of Service Dress clothing, with especially warm underclothing, and a large greatcoat made of skin and lined with sheep's wool. The clothing was good and adequate, but the shape of the fur cap might have been improved, being weak at the throat and neck, which, although usually unnoticeable, was marked on a windy day.

CHAPTER III.

WINTER TRAINING.

Dealing with the Northern Brigade area only.

For the greater portion of the force, owing to the extensive work to be done, training was out of the question; but certain troops, at Kola, Loparskaya, and Kandalaksha, were kept free for this purpose. As the training consisted in the formation of mobile columns, which were to operate in snow-clad country, the work was unique, and took long to learn, and it was essential that the same troops were kept at it throughout the winter. The less fortunate men who remained at fatigue duty, far from grudging those at training their more congenial task, took a proud interest in the progress of the mobile column of their unit.

The mobile columns, each of which was to consist of one infantry company and a gun section, with medical and wireless sections, were to be capable of operating, self-contained, away from their base for periods of fifteen days. Detail of the organization was under Sir

Ernest Shackleton and Commander V. C. Campbell, R.N., assisted by various officers who had been with them in Polar expeditions.

The organization of the mobile infantry companies followed generally the principle of company organization. Small self-contained squads, each of an N.C.O. and ten men, capable of operating either independently or together with the larger unit, formed the basis of each company. Four squads formed a section, and four sections, which were each under an N.C.O., formed a company, which was under the command of a Captain with two subalterns as half-company commanders. The total strength of the mobile company was 3 officers and 189 W.O.'s, N.C.O.'s, and men. These were to move on skis or snowshoes, with their baggage on sleighs. Each man was armed with a rifle similar to that used by the Russian Army, and four Lewis guns per company were carried.

The Gun Section of each column consisted of two self-contained sub-sections, each of 1 officer and 14 other ranks. Each sub-section manned a 65 mm. French mountain gun mounted on sleigh. Ammunition and baggage was also carried on sleighs. The personnel, who were to move on skis, were armed with the Russian pattern rifle.

The Medical Section, which consisted of 1 officer and 6 men, was equipped with 10 ambulance sleighs, for evacuating severe cases, and the normal requirements for simple dressings.

The Wireless Section consisted of one N.C.O. and four men, and was equipped with a light field set.

The equipment of these mobile columns was worked out in minute detail by the Polar experts, the object in view being an absolute minimum of weight, consistent with sufficient warmth. The clothing, which has been described in the previous chapter, was practically the same as that worn on Polar expeditions. Each squad was provided with a horse-drawn sleigh upon which was carried a small tent, sleeping bags, rations, fodder for the horse, S.A.A., cooking utensils, and axes, saws, and shovels; extra sleighs, allotted to section and Company H.Q., carried extra rations and fodder, the Lewis guns, and reserve S.A.A. Each man was provided with a sleeping bag, lined with sheep's wool, in which he was allowed to carry, as personal baggage, 1 pair socks, 1 pipe, $\frac{1}{2}$ lb tobacco, 1 box of matches, $\frac{1}{2}$ packet of toilet paper, and $\frac{1}{2}$ lb senegrass (which was used in boots to afford further warmth). The rations consisted of a specially prepared compressed food.

Troops selected for the mobile columns consisted of a company each of the Sussex Battalion at Kandalaksha, the 6th Yorkshire Battalion at Murmansk, the Italian Battalion at Kola, the French Skieurs at Loparskaya, and a section of R.F.A. at Kola; wireless and medical personnel were selected from their respective units.

This personnel, as far as British troops were concerned, consisted of very raw material, most of the officers and men being entirely inexperienced in ski-ing and in camping under extreme conditions. A keen enthusiasm, however, led to unexpectedly rapid progress, and after about a month of preliminary training, consisting of elementary ski-ing in "fatigue dress," exercises in "marching order" were

commenced. "Marching order" included the carrying of a rifle and a bandolier of ammunition. The order which stated that "Rifles will be carried slung" (the only possible way of carrying a rifle when moving on skis) did not appear to present abnormal difficulties; unfortunately, however, our rifles were not the short carbine of the French Skieurs, but the unusually long Russian rifle of which the muzzle struck one on the back of the head at every available opportunity, and in consequence preliminary training in "marching order" was a painful proceeding. It progressed, however, and marches, parade work, and field firing were all carried out in addition to sleigh packing, tent pitching, and other general training in living under Arctic conditions.

All this training took some months, and by the time that the mobile units were ready to take the field the weather in the south was beginning to break, and they were never used actually for the purpose for which they had been trained. The time had not been wasted, however, for whereas almost all the other troops, heavily tried by the severe labours of the winter, were in a poor state of fighting efficiency, here were several units of men, in the best of health and condition, who were eagerly awaiting a move to the fighting area.

It has been said that training, other than that of the mobile columns, was out of the question. That was so, but nevertheless a certain amount of rifle practice was done by the "working troops" of Murmansk and Kola on a range which was constructed at the latter village. These practices, for which only three or four men at a time could be spared, were more a relaxation than a parade, but at the same time they assisted in reminding the man that he was a soldier.

CHAPTER IV.

THE SITUATION IN THE SOUTH.

In the Southern Brigade area, in contrast to the high barren hills of the north, was an almost flat country, densely covered with forest broken only by innumerable lakes. Villages were more numerous than in the north, and were mostly surrounded by small areas of cultivated land formed by dragging out the trees by their roots and collecting all stones into piles.

Through this thickly wooded country continued the Murman railway, ever running along embankments or through cuttings, with only a few yards clearing between it and the forest.

Roads, upon which from a military point of view so much depended, were also more numerous. Down to Medvyejya Gora there was only one main road, which ran from Kem through Soroka, Sumpski Posad, and Povyenets to Medvyejya Gora; this road, though suitable for country carts, was practically useless for military wagons. A construction road, made mostly of logs, ran beside the railway, but having been frequently burnt by passing trains was impracticable for horsed transport. West of the railway, running from Podanski through Ostretche to Medvyejya Gora was a poor road, barely more

than a track, which was suitable for pack transport and light country carts only.

South of Medvyejya Gora roads improved. The main Medvyejya Gora-Petrozavodsk road, which ran in close proximity to the railway, although rough, and sandy in places, was suitable for horsed transport and guns, and sometimes for light motor vehicles. The road embracing the outlying villages to the west, and running from Medvyejya Gora through Ostretche, Svyatnavolok, and Konchozero to Petrozavodsk, although very hilly and sandy from Medvyejya Gora to Ostretche, was afterwards similar in condition to the main road. From Medvyejya Gora to Schunga¹ there existed a rougher road, suitable, however, for horsed transport, which was connected with the main road at Kapaselga by a similar route from Fedotova¹ through Dianova Gora and Unitsa.

Whilst the troops in the Northern Brigade were spending the winter at fatigue work and training, those in the south, who were holding the line about Olimpi, encountered no incidents of importance until the end of March.

At the end of March, by a brilliant operation, Segeja, which lay forty miles inside the enemy lines, was captured and held. This coup was effected by surprise. A column of 200, all ranks, travelling by horse sleigh, made a wide detour through the forest and reached the outskirts of Segeja before the enemy knew of their proximity. After a brief stand by the enemy, which was overcome by the expeditious use of a T.M., the village was captured. Meanwhile, other columns converged on the railway at different points further north and dealt with the enemy who were cut off. The operation, which was carried out in intense cold (-40° F.), resulted not only in the capture of ground and several hundred prisoners, but also of much needed engines and rolling stock. Heavy hostile counter-attacks failed.

On April 11th a further brilliant operation was carried out. The O.C. Troops, Segeja, learning that 200 enemy had concentrated at Urosozero, twenty miles to the south, with the object of attacking him, had a partially destroyed bridge cleverly and surreptitiously repaired under the eyes of the enemy, and proceeded, with an armoured train followed by a troop train, to Urosozero Station. Bolshevic troops in two lines of trenches north of the station were taken in enfilade by the armoured train, and were "mopped up" by those in the troop train. A dismounted 76 mm. Russian gun in the station was engaged by the armoured train and, after a brief duel, was captured together with the station and a number of prisoners.

The operations against Segeja and Urosozero saw the end of the winter. Passing south from Murmansk on May 1st, one passed in a day and a-half from winter into almost summer conditions. In the north, winter was beginning to break, but snow and ice, which covered everything with a white mantle, were unaffected, and the temperature remained about freezing. In the south, a warm sun had nearly obliterated all signs of winter, the ground was hard and dry, except

¹ See map on page 674.

in the shady depths of the forest, and trees and bushes were budding freely.

CHAPTER V.

THE CAPTURE OF MASELGA.

May 3rd (1919) saw the commencement of summer operations. The situation was then as follows.

On the railway, in the neighbourhood of Siding 17, under the immediate command of a Canadian Colonel, was a column about 500 strong, composed of one company Royal Marines, a-half company French Skieurs, the "Slavo-Britannic Allied Legion," Canadian details, a U.S.A. detachment, and a 65 mm. gun manned by R.F.A. personnel.

The Royal Marines were those who had been in the country for some time, and who had been at Kandalaksha during most of the winter; they were mostly non-regular officers and men. The French Skieurs, about sixty strong, were a portion of the mobile column from Loparskaya. The Slavo-Britannic Allied Legion (known hereafter as the S.B.A.L.), which was composed of about 150 locally raised troops, was an offspring of the "Karelian" Regiment, and formed one of two "battalions" of the "Olonetz" Regiment; the latter regiment was commanded by an officer of the 60th Rifles who was at the moment with the S.B.A.L. The Canadian details consisted of about thirty officers and sergeants who had been specially selected for service in Russia. The U.S.A. detachment consisted of about two dozen officers and men who had recently arrived in the country. The gun subsection was one of the mobile teams which had been training at Kola throughout the winter.

Such is the history of the column about to operate along the railway, and whose first objective was the village of Maselga, which was said to be on the railway ten miles south of Urosozero.

To the west of the railway, some thirty miles distant, about 200 men of the Olonetz Regiment were in the process of clearing the Podanski area.

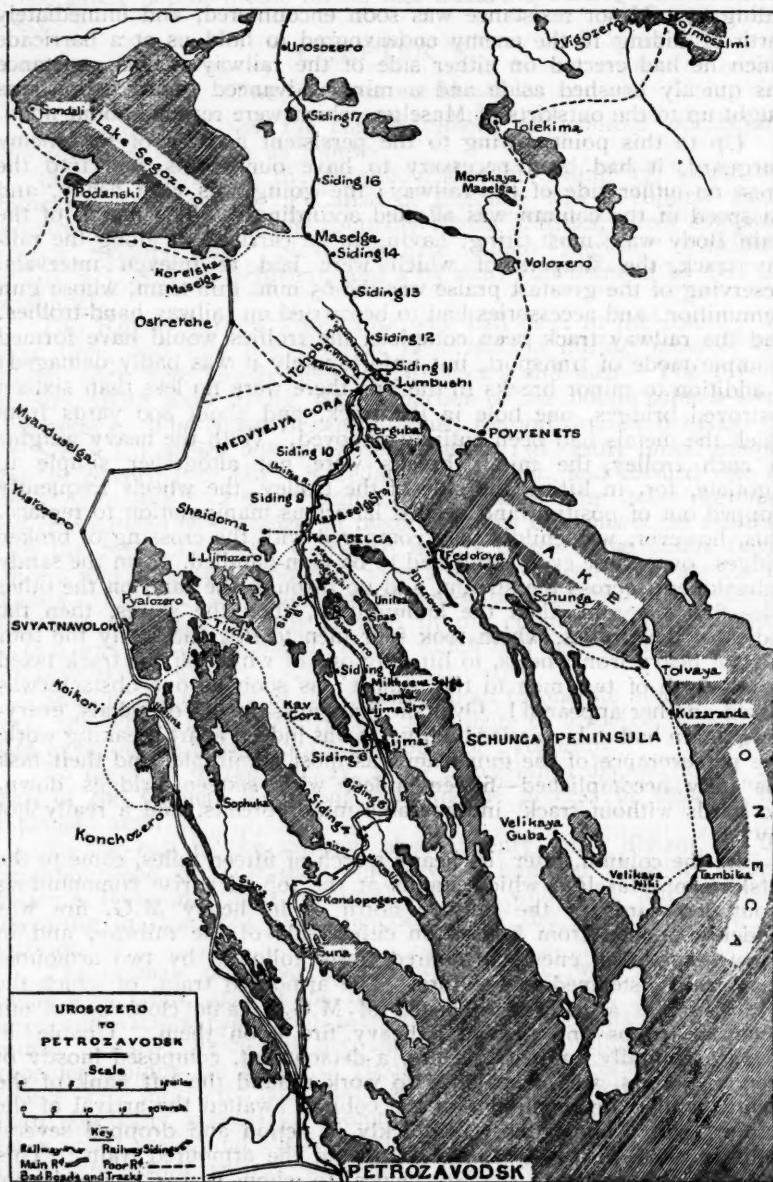
To the east of the railway, about twenty miles distant, in the neighbourhood of Tolekina, were several hundred Russian troops, under a Russian Officer, Colonel D—, who had already been operating in that area in conjunction with the operations on the railway.

The ultimate objective of the whole force was, at that time, Medveyejya Gora, and in the operations up to that objective two important factors came into play and must be constantly borne in mind. Firstly, which will account for what the military reader may consider timidity, or a lack of vigour, in pursuing certain operations, orders were most emphatic that we should suffer no more casualties than absolutely necessary. Secondly, the only available maps were on a small scale, and their inaccuracy was such that points were frequently shown several miles out of position, which resulted in our having to move blindly, except on the ground which could be seen with the naked eye.

In the early hours of 3rd May, the Railway Column set off from Siding 17. Minor resistance was soon encountered, and immediately north of Siding 16 the enemy endeavoured to hold us at a barricade which he had erected on either side of the railway. This resistance was quickly brushed aside and a minor advanced guard action was fought up to the outskirts of Maselga, which were reached about noon.

Up to this point, owing to the persistent activity of the enemy rearguard, it had been necessary to have our scouts well into the forest on either side of the railway; the going was very heavy, and the speed of the column was affected accordingly. The march of the Main Body was most tiring, having to be carried out along the railway track, the sleepers of which were laid at uneven intervals. Deserving of the greatest praise was the 65 mm. gun team, whose gun ammunition, and accessories had to be carried on railway hand-trolleys. Had the railway track been complete, the trolleys would have formed a simple mode of transport, but unfortunately it was badly damaged; in addition to minor breaks in the line there were no less than sixteen destroyed bridges, one hole in the track, and about 800 yards from which the metals had been entirely removed. With the heavy weights on each trolley, the minor breaks were not altogether simple to negotiate, for, in lifting the side of the trolley, the wheels frequently dropped out of position and needed laborious manipulation to replace. This, however, was child's play compared with the crossing of broken bridges; over these everything had to be man-handled, down the sandy embankment, across the stream, and up through the sand on the other side—first the gun, then the ammunition, then the stores, then the bodies of the trolleys, which took four men to lift, and lastly the four pairs of heavy iron wheels, to lift only one of which off the track taxed the strength of two men to the utmost: as soon as one obstacle was passed another appeared! Over the 800 yards devoid of metals, everything again had to be carried bodily. It was indeed heart-breaking work. The perseverance of the gun team was most admirable, and their task was fully accomplished—fifteen miles, with sixteen bridges down, 800 yards without track, innumerable minor breaks, and a really hot day!

As the column, after its heavy march of fifteen miles, came to the outskirts of Maselga, which stands at the top of a rise commanding about 800 yards of the railway north of it, heavy M.G. fire was suddenly opened from houses on either side of the railway, and in a few seconds an enemy armoured train, followed by two armoured troop trains, steamed to the fore. The armoured train, of which the only apparent armament consisted of M.G.s, came close up to our advanced troops and opened a heavy fire upon them. Unable to advance frontally against this fire, a detachment, composed mostly of French Skieurs, was despatched to work around the left flank of the enemy, whilst the remainder of the column awaited the arrival of the 65 mm. gun. The latter was quickly in action and dropped several shells in close proximity to the engine of the armoured train. This was a great surprise to the Bolsheviks, to whom it was inconceivable that we could have brought up a gun over the carefully demolished



track, and, fearing that their train would be hit, they withdrew further into the station. Meanwhile our flanking troops were making themselves felt, and on the retirement of the enemy train our whole force pushed on. After a brief struggle the enemy, dragging their wounded with them, concentrated on their trains and made off southwards at full speed; we took up an outpost line a mile south of the village.

This operation had been most successful. With a loss of about four men wounded, we had driven out several hundred Bolsheviks, of which a number were killed, and had taken possession of a large village, with an excellent station, which formed a fitting base for further operations.

At 6 a.m. on May 5th, the S.B.A.L. marched off from Maselga and proceeded by a very rough track to Korelska Maselga, a village about eight miles to the west, where it was to effect a junction with other elements of its regiment which were coming from the Podanski area.

On the same day 200 Bolsheviks made a feeble attack on our forward position on the railway, and were driven off in confusion.

At 11 p.m. on May 7th, four days after the capture of Maselga, the first train from the north steamed into the station. This was a remarkable feat on the part of the U.S.A. railway troops, who were responsible for such work. Most of the bridges had to be entirely rebuilt, and, owing to the single track, it was possible to use only one construction train.

CHAPTER VI.

FURTHER OPERATIONS—TO MEDVYEJYA GORA.

Dispositions and Plans.

With the arrival of railhead at Maselga, preparations were immediately commenced for a resumption of the forward move.

The force was now divided into three columns working on parallel routes from twelve to twenty miles from each other.

On the right was the S.B.A.L., about 400 of which were now at Korelska Maselga. This column would move through Ostretche, and thence via a route known to local peasants, and would outflank Medvyejya Gora from the S.W. The supply question was difficult, as the track from Maselga to Korelska Maselga was very bad and suitable only for lightly laden pack ponies, and, consequently, although pack convoys of the thirty or forty available ponies were ever moving, the column was compelled to live on reduced rations.

In the centre, at Maselga, was the mixed force, previously mentioned, which had now been augmented by a regular company of the Middlesex Regiment, and one of the K.R.R.C. This column was to operate along the railway, by which route it would be supplied, and would be the directing column.

On the left, the Russian force, which had now reached Morskaya Maselga, was to advance via Povyenets, without becoming involved in difficulties, and to co-operate in the attack on Medvyejya Gora. It carried a good supply of rations on peasant carts; replenishment had

to be made from Soroka via Sumpski Posad,¹ Vojmosalmi, and Tolekina, a long and difficult route.

Co-ordination in the operations of these columns was greatly hampered by the lack of reliable topographical information and the apparent ignorance of the local peasants.

Communication with the flank columns was a lengthy proceeding. The right column was at present a day's ride distant, but, once it left Korelska Maselga, communication with it would be impracticable. The left column was connected with the civil telegraph lines and could be communicated with via Soroka, but this was a slow, inefficient, and unsafe means of communication; the only alternative route was by messenger through Urosozero and Tolekina, a distance of thirty miles cross-country travel through forest and lake, which took several days to accomplish.

As there was no information as to the actual distance to Medvyejya Gora, it was necessary to operate further with the centre column before the date for the final attack could be given. The left column was allowed to move on slowly, being posted with the moves of the centre, but the right column, which according to local information would take five days to reach its objective, was kept at Korelska Maselga pending further developments.

Preliminary work by the Railway Column.

About 3 p.m. on May 9th, thirty hours after the arrival of railroad at Maselga, the Railway Column, consisting of the K.R.R.C. company and Canadian and U.S.A. details, supported by the 65 mm. gun, all under the command of the Canadian Colonel, moved off southwards, the remaining troops on the railway being kept at Maselga. Rations, one blanket per man, and the gun were carried on hand trollies.

The damaged state of the railway track made the progress of the column slow, and by 8 p.m., when it bivouacked for the night, only ten versts (six and two-thirds miles) had been covered. Up to this point no enemy had been encountered. The advance was continued early next morning, and after moving about one verst, what proved to be a rearguard of the enemy was encountered. Fire was opened on the enemy, who withdrew to a commanding ridge beside Siding 13 and attempted to hold our advance. With the co-operation of the 65 mm. gun they were driven out, however, at a cost to us of one man wounded.

We were now thirteen versts (eight and two-thirds miles) from railroad and, in view of the difficulty of the supply question, the O.C. Column decided to await the approach of the railway, which would enable our next bound to include the next siding. The railway consisting of a single track, it was important that as far as possible each operation should conclude with the capture of a station or siding. This gave space to side-track, as near to the operations as possible, rolling stock, such as ambulance cars which might be needed at any moment;

¹ See map on page 664.

it also permitted the construction train, which was always southernmost, to be cleared out of the way with a minimum waste of time if the armoured train were required. In addition, it was at these points only that water and fuel, with which the engines needed replenishing frequently, were available.

At 7.15 a.m. on May 15th, having been in contact with the enemy for several days, the Railway Column again pushed forward. The striking force was now augmented by the Middlesex Company, an M.G. detachment with two M.G.'s, a T.M. team, and a French-manned 75 mm. gun which was mounted on a truck at the southern end of the construction train. The K.R.R.C. Company formed the attackers, with the Middlesex in close support. Rations and the 65 mm. gun were carried in the usual way.

Rounding a bend in the railway, after having proceeded 1,000 yards, the column came to a straight open stretch of railway and the advanced troops were fired upon. The ground immediately ahead was somewhat different from that which had so far been met. About 300 yards on either side of the railway were lakes, and the intervening ground, which consisted of a series of hillocks, was practically open. At the farthest point ahead, about 1,500 yards, these hillocks merged into a ridge extending across the railway, which entered it by a cutting. The whole ground formed a strong natural position which was difficult to turn without encircling the lakes, a manoeuvre which would take some hours.

Having driven the enemy from the hillocks, our advanced troops were held up at the ridge, where several hostile M.G.'s and a pom-pom were active. Throughout the day our guns, M.G.'s, and T.M. kept up a continuous fire, whilst the infantry made strenuous efforts to break in the enemy flanks. About 4.30 p.m., after eight hours struggle, a flanking move of the K.R.R.C. succeeded, and the position was carried at the point of the bayonet. A number of enemy were killed and several, including an officer, were captured, together with an M.G. Our casualties consisted of one officer and three other ranks killed, and several officers and men wounded.

After the capture of the ridge, the Middlesex Company pushed on at once in an endeavour to capture the pom-pom. Immediately north of Siding 12 they were met by a hostile armoured train which assailed them heavily at close range with two field guns and some M.G.'s. Although unsupported by any artillery, they put up a gallant fight and finally caused the armoured train to withdraw.

Up to this point the railway was badly damaged, the bed having been entirely destroyed in several places, but by the evening of the 17th (two days later) the U.S.A. railway troops had brought railhead up to Siding 12, and our outpost line was established about one and a-half miles further south.

On reaching Siding 12, we were nearly twenty-five miles south of Maselga, and, according to our only available map, should be near the Lumbushi-Medvyejya Gora road crossing, with Lumbushi on our left. Patrols sent some miles to the S.E., along forest tracks, were able to find no trace of the village. A patrol sent down the railway

was unable to find any road crossing, but brought back the strange intelligence that the railway, instead of proceeding westward, as by all accounts it should have done, proceeded almost due east. The latter patrol proceeded about five miles, throughout which the railway was undamaged, when it observed a hostile post.

The report of the undamaged railway before us, although a most unusual and suspicious circumstance, afforded an irresistible opening for the armoured train, which could come to little harm. As the report was received late in the day, two platoons of Royal Marines were sent down to watch the hostile post and to prevent, if possible, any damage to the railway, whilst preparations were made to bring up the armoured train early next morning.

At 5.30 a.m. on the following morning, May 18th, the armoured train, followed at half a mile by a troop train, left Siding 12. The armoured train, consisting of six trucks and an engine, was armed with four 3-pounder Q.F. naval guns, and some Lewis guns, and was manned by French gunners. On this occasion, two heavily laden flat trucks were placed in front to explode any mine which might have been laid, though we had ascertained that there was no such obstruction as far as our advanced post of Marines. In the armoured train were the other two platoons of Marines, and odd personnel, whilst in the troop train were the K.R.R.C. Company, two 65 mm. guns, a T.M., and medical personnel.

Upon reaching a bridge at the point where the railway turned eastward, about three miles behind our advanced post, the armoured train, to our surprise, was engaged with rifle fire by about fifteen to twenty enemy. The Frenchmen replied immediately to this impertinence, and hostile firing ceased; a platoon of Marines detrained and pursued the enemy, but they quickly disappeared in the forest.

Continuing the advance, our advanced post was passed, and bending southwards with the railway the armoured train proceeded, without encountering any enemy, about a mile further, where it was held up by a destroyed bridge. A few hundred yards south of the bridge was a piece of high ground, to which the troops from the troop train were sent to take up an outpost position.

The attack on the armoured train gave food for thought. The possibility of hostile troops remaining behind in the forest, or circumventing our flanks and coming in behind us by forest tracks known only to themselves, had of course been considered. In view, however, of the weakness of the force, and the lack of aerial observation to reveal forest tracks, and as it was essential to press the enemy continually, it had been decided to make each column self-contained, and to press forward speedily as long as the enemy took no advantage of this form of interference.

On the evening of May 18th, the day upon which we had taken up the position last described, the K.R.R.C. Company, which was holding the outpost line with the Royal Marine Company, sent out a strong reconnaissance party with a view to finding Lumbushi. Proceeding in a S.E. direction this party encountered, about 400 yards from their starting point, heavy enemy opposition, in face of which they withdrew.

On the following morning the enemy attempted to blow up the bridge, behind our front, where the firing on the armoured train had occurred. After a brief struggle they were driven off by the Middlesex Company. In the ensuing pursuit, which was continued for about 100 yards into the forest, a rough track was discovered; this, though overgrown where it approached the railway, was well defined in the forest, and was undoubtedly the route which the enemy had used in his endeavour to interfere with our communications.

A short time after the above incident had occurred, the reason of these unusual attacks was explained. An officer of the Middlesex Company, which had now relieved the K.R.R.C. Company in the outpost line, climbed a tall tree and, following the smoke of an enemy train, discovered that the railway, which bent S.W. at the outpost position, then turned N.W. and ran almost parallel to itself. The newly discovered forest track was, in fact, across a hairpin bend of the railway, of which the sides were two to three miles long. This intelligence was most disappointing, revealing a situation of which, had we been aware in time, we should have taken full advantage to the embarrassment of the enemy.

Unfortunately we were unable to press forward, but were held to our position owing to the receipt of information, to the effect that the enemy were about to make an elaborate raid on our L. of C., which needed investigation.

Patrols which reconnoitred throughout the remainder of the day and the ensuing night, located the enemy not only on the left, where they had been encountered by the K.R.R.C., but extending thence in a semi-circle across and well into the loop of the railway immediately in front of Siding 11.

The Railway Column Attack on Medvyejya Gora.

On the following morning, May 20th, orders were given that the advance should continue at 9 p.m. With the arrival of further troops during the morning, our dispositions became as follows. At the entrance to the forest track aforementioned was a company of Serbs with a 65 mm. gun. At the outpost position, on the right and left of the railway, respectively, were a company of Italians (the mobile company from Kola) and the Middlesex Company, whilst in support were two 4.5 howitzers, two French 75s, a 66 mm. gun, and a T.M., of which the four heavier guns could support only the initial stages of the advance. The Serbs would advance by the forest track, and the remainder by the railway.

Almost simultaneously with the arrival of zero hour, large columns of smoke were observed rising from the enemy area. The enemy was in retreat.

We pushed on rapidly, and our two columns met at Siding 11, having encountered only a few isolated enemy. The Middlesex Company here turned southwards, along a rough track, in search of Lumbushi, which they captured, with twenty prisoners, about midnight. The Serbs and Italians pushed on to the River Lumbushanka,

the bridge over which had been entirely destroyed, and their advanced troops were about 500 yards beyond it when an enemy armoured train came up to engage them. At this precise moment, however, patrols of the Middlesex Company, which had been pushed forward from Lumbushi, came up to the railway from the S.E. and, attacking the armoured train from its right rear, caused it to withdraw hurriedly. Immediately afterwards, Serbs on high ground immediately S.W. of the Lumbushanka bridge were heavily attacked from the S.W.; they eventually drove off the enemy, killing twenty or thirty. The Italians, who had remained behind the River Lumbushanka, were then brought up to occupy high ground between the Serbs and the Middlesex, thereby forming a continuous line covering the river crossing. It was now 9 a.m., and in view of the heavy work which had fallen upon the Serbians during the night, and throughout the previous twenty-four hours, it was decided to postpone further advance until 2.30 p.m.

Throughout the morning the enemy continually harassed the Serbs, and also carried out intermittent shelling of Lumbushi with a 6-inch gun, which appeared to be on train mounting in Medvyejya Gora Station. During this period our 65 mm. gun and T.M. were continually active. At 2 p.m., rapid fire, from four 76 mm. guns on an armoured train, was opened at short range upon the Italians, and lasted for about fifteen minutes.

At 2.30 p.m., leaving the Middlesex Company to guard the left flank, the Serbs and Italians advanced in a S.W. direction to rejoin the railway, which made a hairpin bend around the position they had been holding. At the same time several trains left Medvyejya Gora Station, and the enemy armoured train was seen making in that direction, blowing up bridges behind it. Reaching suitable ground, the 65 mm. gun established an O.P. and opened fire on Medvyejya Gora, which fire was kept up until about 4 p.m.

The River Vitchka was reached about 4.45 p.m., and shortly afterwards we pushed into Medvyejya Gora, which was captured without opposition. One prisoner, with some transport, field kitchens, and telephone material were also captured. Evidence of the hasty departure of the enemy was apparent in the ineffectual attempts to destroy the large bridges over the Vitchka and Kumsa Rivers, and in the absence of damage to the town itself, and this was confirmed by the prisoner, who stated that they had left in great haste about 5 p.m.

An outpost line was established around the S., S.W., and W. of the town, and was held by the Serbs and Italians, whilst the Middlesex Company, which remained in support, picquetted the formidable hills W. and N.W. of the Vitchka bridge.

Operations of the Flank Columns.

Whilst the operations on the railway were in progress, the flank columns had also been active.

The Right Column, which had been started off from Korelska Maselga about the time that our operations against Siding 12 had commenced, carried out their programme excellently and reached high

ground, immediately overlooking Medvyejya Gora from the S.W., about 7 a.m. on May 21st, when the Railway Column was engaged with the enemy about the River Lumbushanka. Unfortunately, the position of the Railway Column was not visible to them, and they failed to distinguish a salvo of shells which, as a prearranged signal, was fired over Medvyejya Gora at 7 a.m. to notify them that the attack on the town would take place that day; consequently, after waiting several hours and being heavily attacked by the enemy, they withdrew, without casualty, to Tchobina to await further developments.

The Left Column had captured Povyenets, and its patrols had reached Lumbushi late on the day of its capture.

General View of the Attack.

It will be seen that, although communication with the flank columns was difficult and infrequent, they co-operated successfully in the attack on Medvyejya Gora. It had been a difficult problem, without accurate maps of the railway, to know when to start off the Right Column, which had to move when the Railway Column was five days distant from making the final attack; but the judgment proved to be good, and it was owing respectively to a series of delays and to pure misfortune that, firstly, the Railway Column was a few hours behind the Right Column in reaching the objective, and, secondly, that it was unable to reveal its near approach. Nevertheless, although the attack was not concerted, there is no doubt that the Right Column played a large part in causing the hurried retreat of the enemy.

The operations of the Railway Column from Siding 12 to Medvyejya Gora had been to a certain extent disappointing. The lack of topographical information had not only caused some uncertainty and delay when the attacks were made on our communications on 18th and 19th, but had robbed us of a valuable opportunity of inflicting a severe blow on the enemy.

The whole operation had, however, been successful inasmuch that it caused the enemy to retreat hastily and allowed him little time for destructive work.

CHAPTER VII.

FURTHER PLANS AND A NEW POLICY.

Medvyejya Gora was a capture of outstanding importance. Giving us access to Lake Onega, it opened new fields of operations, and, instead of being confined to three columns moving blindly in an unknown country, we could now operate also by sea and air, and the land columns would benefit by the enormous advantages attendant on the latter.

The town was eminently suitable as a base for further operations. Existing houses would accommodate 2,000 men, and there was ample space for the erection of tents; the railway sidings were extensive, and larger than any we had met south of Soroka; and the lakeside was equipped with a long quay which formed a basin affording protection from storms, and upon which ran an extension of the railway.

The construction of a new bridge across the River Lumbushanka was the biggest task the railway engineers had faced since the operations commenced, and it was not until June 1st that the railway was through to Medvyejya Gora.

With the advent of the railway, Medvyejya Gora became a centre of great activity, trainloads of stores following quickly upon one another as fast as rolling stock could be released. Motor boats of the Lake Flotilla, which had been on trains awaiting a glimpse of navigable water since the capture of Siding 17, were amongst the first to arrive. They were quickly followed by R.A.F. material for the establishment of a seaplane base, whilst sappers and infantry commenced laying a large wooden landing platform, in an open space at Lumbushi, for the use of aeroplanes.

Operations were now to be carried out in a country which was somewhat more open than that with which we had previously met. Lake and road communications were more numerous, making the closer co-operation of columns necessary to avoid a serious flanking attack on any one column.

It was the intention of the Higher Command, in collaboration with the Russian Military and Political Authorities, that no British infantry should be used south of Medvyejya Gora, but that the Russian forces, both those on the left under Colonel D—, and a larger force, of about 2,000, which had been in training for some months, should take over the line and, under the G.O.C. 237th Infantry Brigade, and assisted by our gunners, airmen, Lake Flotilla, and other specialists, should themselves carry on the operations.

In pursuance of this policy, shortly after the capture of Medvyejya Gora, Colonel D—'s force occupied Schunga, at the Northern extremity of the Schunga Peninsula, and other Russian troops supported by two 4.5 howitzers and two 65 mm. guns, British-manned, took over the outposts on the railway. The Royal Marine Company remained at Maselga, the Middlesex at Lumbushi, the K.R.R.C. at Medvyejya Gora, and the Italians at Povyenets, whilst the Serbians and the Olonetz Regiment were at the moment in Medvyejya Gora.

It was intended, now that more transport was available and roads were better, to continue the advance more rapidly than previously. The direction was to be southward, but no final objective was given.

The operations were to be carried out by three columns. The Right Column, under O.C. Olonetz Regiment, which would work via Myanduselga, Yustozero, Svyatnavolok, etc., was composed of one battalion Olonetz Regiment, one company Serbs, twenty British Mounted Infantry, and some R.E. details; the Serbs were a fresh company, from Soroka, who had just relieved the previously engaged company, and the M.I. consisted of men of the Middlesex and K.R.R. Companies mounted on mules and commanded by a cavalry subaltern. The Railway Column, working along the railway and adjoining road, was composed of about 600 Russian troops supported by various British guns. The Left Column, working in the Schunga Peninsula, was Colonel D—'s force, previously mentioned.

The land operations would be assisted by the R.A.F. and the Lake Flotilla, and a gallant Russian Colonel was given a roving commission in the area to the east of Lake Onega, where he was already collecting and arming partizans.

At the commencement of the general advance, the columns were to be at Yustozero, Siding 10, and Schunga, respectively.

The countless preparations necessary in organizing transport, signalling and medical arrangements, etc., for the improvised columns, proceeded rapidly, and by June 6th the Lake Flotilla had several boats in the water and were actively assisting in the defence and supply of the Schunga Column, and the R.A.F. had two or three seaplanes in the air.

On this day the Russians on the railway carried out a preliminary attack to gain possession of Siding 10. They captured the Siding but, being unable to drive the enemy from high, commanding ground immediately south of it, withdrew again to their original position near Perguba.

At the same time, information was received that the Schunga Column was being continually harassed by enemy established in Dianova Gora, which stands on high ground between the railway and Schunga, and road communication was being seriously interfered with.

In consultation with the Russian Commander, it was agreed that, in the interests of the Schunga Column, the delay involved in a further preliminary attack on Siding 10 was most undesirable. It was decided, therefore, that the general advance should commence on the 11th, the Siding being included in the main operation, and a Russian force clearing the Perguba-Schunga road and joining hands with the Schunga force which was now stretched across the Peninsula from the Lake to Fedotova.

In accordance with this plan, the Right Column left Medveyejya Gora on June 8th, in order to reach its starting point by the 11th, and the R.A.F. and Lake Flotilla combined in a bombardment of Dianova Gora.

CHAPTER VIII.

FURTHER OPERATIONS.—THE CAPTURE OF KAPASELGA.

Early on June 11th the main battle commenced. The Railway Column met with fairly heavy opposition and, after advancing about two miles, "gave up the ghost," the Russian soldiery refusing to advance further, regardless of the persuasion and example of their officers.

This failure was serious, as the column was already behind its allotted place in the general line, and this necessitated halting the flank columns. The Schunga Column had not started, but the Right Column had reached Svyatnavolok and was recalled to Yustozero.

It was apparent that, for the sake of morale, the Bolshevics had to be driven out of Siding 10 at once. This could only be effected by reversing the recently arranged policy and using British troops. Arrangements were made, therefore, for the immediate relief of the

Russian Railway Column, who were to join the force working along the Perguba—Schunga road, making a total of 600 men, whilst British troops would press forward on the railway.

By 4 p.m. on the following day, the Russian Railway Column was relieved by a column, under O.C. Middlesex Company, consisting of the Middlesex and K.R.R.C. Companies, a M.G. detachment, and a 65 mm. gun, supported by two 4.5 howitzers, and contact had been established with the enemy.

At 8.40 p.m., after a brief preliminary bombardment, the column advanced, the Middlesex, who were leading, being extended well into the forest. The enemy put up little resistance, but scattered into the forest, and by 12.30 a.m. our advanced troops reached Siding 10. Whilst the guns and reserves remained concealed, the Middlesex Company advanced along the Siding towards the dominating hillock to the south which commanded a clear 1,000 yards of the railway, including the siding, and several hundred yards of open ground on either side. Our scouts got to within 300 yards of the hill when heavy fire from three M.Gs. and some rifles was opened from it. The M.G. fire was characteristic, consisting of bursts of a complete belt.

Our guns and M.Gs. immediately opened an intermittent fire, and two sections of the Middlesex were sent to flank the enemy's left. These sections got to within eighty yards of the enemy, but were unable to effect his retirement, and, after heavy firing on both sides, it was decided to make a frontal attack, the ground being unsuited to the employment of a larger flanking party.

About 4 a.m., after a three minutes' intense bombardment of the enemy position, the Middlesex advanced in extended order, but were denied battle as the enemy had fled. The position was found to have been fortified with stone built, covered shelters, each for one man, which commanded an excellent view of the Siding. The operation had cost no casualties. No enemy dead were found, but one prisoner remained in our hands.

Whilst the Railway Column was in the process of capturing Siding 10, the Russians pushed on to Fedotova, but failed to take Dianova Gora.

Whilst in the capture of Siding 10 our immediate object had been achieved, it soon became apparent that we could not remain on our present line, as the enemy had established a field gun in Dianova Gora, making land communication with the Schunga Column almost impossible. It was decided, therefore, that British troops would have to be used further, and that an advance should be made to the general line Svyatnavolok—Kapaselga—Unitsa—Schunga.

About June 25th, the Middlesex and K.R.R.C. Companies, under the O.C. Middlesex Company, supported by two 4.5 howitzers on railway mounting, and one 65 mm. gun, resumed the advance along the railway. At the road crossing, about six versts south of Siding 10, the enemy were found in an entrenched position on either side of the railway, where they were supported by an armoured train which came forward and engaged our troops at short range. Soon after the commencement of fighting, our troops were hemmed in by two forest fires

which broke out immediately behind them and between them and the enemy. It was a hot day, and the wind being unfavourable to us, the heat and smoke became unbearable, and a large percentage of our troops were laid out with heat stroke. In view of this calamity the advance had to be postponed, and the Italian Mobile Company, supported by its battalion M.Gs., took over the outpost line.

On the following afternoon it was found practicable to advance, and the Italians, supported by the armoured train which was now manned by U.S.A. troops, captured the enemy position, without meeting serious opposition, and pushed patrols on to the Unitsa River.

A day or so later, we pushed across the river and, after a brisk encounter with the enemy immediately south of Siding 9, eventually established ourselves in Kapaselga Station.

Since the capture of Siding 10 by the Railway Column, the flank columns had been actively employed.

The Right Column had covered large stretches of country, daily doing long marches which almost invariably ended in engagements. They had been as far south as Svyatnavolok, and had been a continual source of worry to the enemy. In their gallant and untiring efforts they suffered considerable discomfort by having to move with a minimum of supplies and baggage.

The Russians in the Fedotova area had established contact with the Schunga Column, and on June 28th, assisted by Canadian details and a platoon of Serbs from Soroka, and commanded by the Canadian Colonel, they took Dianova Gora and, pushing on nine miles, captured Unitsa also.

The Schunga Column had been in constant combat with the enemy, who had made repeated efforts to turn them out of the Peninsula. They had held on tenaciously, however, and had made many counter raids into enemy territory.

On July 4th, the Railway Column being at Kapaselga Station and the Right Column at Shaidoma, it was arranged that these Columns should make a concerted attack on Kapaselga village on the following day.

Kapaselga village, standing on a prominent hill with a commanding view of the surrounding country, which in the vicinity of the village was mostly cultivated and open, presented a formidable obstacle. The enemy occupied trenches at the railroad crossing, immediately N.E. of the village, and facing W, on the western side of the village—both commanding positions. They were supported by a field gun in the village itself, and a 6-inch naval gun, on truck mounting, further down the railway, and used the church tower, which commanded an extensive area, as an O.P.

Our forces available for the operation consisted of the Right Column, which was unchanged, except that its former C.O. had been evacuated sick and it was now commanded by a Major in the Middlesex Regiment, and the Railway Column, under O.C. Middlesex Company, which was composed of one company Russians, one platoon Serbs, the K.R.R.C. Company and some U.S.A. details with M.Gs. In support were two 4.5. howitzers on the railway three to four versts N.

of Kapaselga Station, and one 18-pounder on the road S.E. of the station.

Zero hour was given as 11 p.m. By this hour the Right Column was to have worked southwards and to be in a position to attack from the west. On the railway, the Russian Company, amongst whom the platoon of Serbs were scattered for moral support, would attack in extended formation on the west side of the railway, their left flank being covered by U.S.A. machine gunners on the east side of the track. The K.R.R.C. Company would remain in reserve. As it was calculated that the assault on the village itself would take place about 11.45 p.m., a heavy sweeping bombardment, accompanied by aerial bombing, was arranged to take place from 11 p.m. to 11.40 p.m., standing for the last ten minutes on the village.

Throughout the day our patrols were active, harassing fire was carried out, and the O.P. was bombarded.

At the appointed hour the advance commenced, and all arms performed their allotted task most successfully. The Right Column's flanking move demoralized the enemy, who hastily retreated southwards hotly pursued by detachments of both columns. The Right Column captured twenty-five enemy, and the Railway Column nineteen, whilst several enemy were killed, including one of their leaders and one of the observers in the church tower; the other observer was severely wounded. The enemy gun had been withdrawn earlier in the day, and therefore eluded capture. We suffered no casualties.

Unfortunately, whether owing to our shells or to enemy incendiaries is not known, the centre of the village caught alight and was burning furiously when we arrived. Every assistance was given the inhabitants in quenching the fire and saving their belongings, but before it was well under control twenty-five out of fifty-six houses had been destroyed.

Outposts having been posted, the indefatigable Right Column moved off at once to take up its position at Svyatnavolok, which it reached without incident, and on July 6th the line Svyatnavolok—Kapaselga—Unitsa—Schunga was established.

Although the line remained practically unchanged until August 16th, the sectors were by no means inactive.

Soon after the capture of Kapaselga, a more continuous line had been established. The Right Column held the area between Svyatnavolok and the east shore of Lake Lijmozero, including the important village of Tivdia, situated at the junction of numerous routes, which was held by troops of the S.B.A.L. under an officer of the Middlesex Regiment. The Railway Column held from Lake Lijmozero to Unitsa (inclusive), embracing the hamlets of Mogilniki and Mayozero; Unitsa was held by Russian troops, under a British Gunner-Major, whilst the Middlesex and K.R.R.C. Companies took turns in holding the remainder of the front. The Schunga Column remained extended across the Schunga Peninsula.

The troops at Svyatnavolok patrolled vigorously, and their M.I. were in frequent touch with the enemy. Tivdia was the scene of

frequent hostile attacks; from this village operated an Intelligence Officer who, with twenty or thirty locally collected partizans, frequently went thirty to forty miles into enemy territory, destroying bridges, attacking convoys and fortified villages, etc., creating general panic in the enemy lines and capturing prisoners; the accomplishments of this partizan force included the burning of the two large bridges over the Suna River, more than thirty miles from our lines. On the railway front, as had been anticipated, as soon as our offensive stopped, the enemy became aggressive, their objective usually being Kapaselga on the first day and Medvyejya Gora on the next: they met with no success. At Unitsa there was no serious fighting, but a hostile gun firing from Vakshozero caused some inconvenience; the only noteworthy incident was the sinking, by a 65 mm. gun, of an enemy steamer which steamed up close to the village before realizing that it was held by us, and the subsequent capture of the crew. The Schunga Column had remained in constant conflict with the enemy.

CHAPTER IX.

AIR AND SEA OPERATIONS, ETC.

The R.A.F.

Since the capture of Medvyejya Gora, the R.A.F. had been actively engaged in the operations described above.

Shortly after their arrival, and before they had by any means settled in, they were called upon for strenuous efforts, both in bombing enemy steamers, which were frequently attacking the Schunga Column, and in preliminary reconnaissance and actual patrol work in the Russian attack on Siding 10, on June 11th.

After this, they assisted in all operations, by land and water, and were constantly employed to their full capacity in long and short distance bombing, extensive reconnaissance and photographic work, and liaison with flank columns.

Their efforts met with considerable success; on one occasion they obtained a direct hit with a large bomb on a steamer transporting about 500 enemy troops, and direct hits on rolling stock, bridges, and the railway itself were numerous.

Both aeroplanes and seaplanes were used for this work, and, considering the nature of the country, forest and lakes, where a forced landing in most cases meant disaster, it is a great credit to the squadrons that throughout the whole operations, although several were hit by M.G. bullets, only two machines were lost in enemy territory. The losses consisted of a seaplane which was compelled to make a forced landing in the forest, and a single-seater aeroplane which was compelled to land in the lake; in the former case the pilot and observer and all instruments, etc., were rescued, and in the latter the machine was a total wreck and the pilot was captured.

It is solely lack of space which prevents me relating in detail some of the many gallant actions of this arm, upon which the success of the numerous operations had to a large extent depended.

The enemy had, in the meantime, made strenuous efforts to take the air, but without success; this is not surprising when one learns that the only "pilot" was a peasant from the obscure village of Kuzaranda.

The Lake Flotilla.

Throughout the same period, another unit which had been making strenuous efforts, and had been rewarded with numerous successes, was the Lake Flotilla.

This force was divided into two sections, the British-American section and the Russian section, and was commanded firstly by a R.N.R. Lieutenant, well known by his connection with the Shackleton Expedition of 1914, and later by a Commander, R.N. Personnel of the Russian section were sailors and cadets, but ours were mostly "landlubbers."

The boats which were at first available for this unit were poor and unreliable. They consisted of three or four open motor boats, of a speed of six to eight knots, two of which were armed with 37 mm. guns, and the remainder with M.Gs.

The work of the Lake Flotilla during the first few weeks was arduous, consisting mainly in keeping the Schunga Column supplied. The journey from Medveyjya Gora to Schunga is about thirty miles, and consequently the boats had to be continually moving to keep up the necessary supplies. Breakdowns were frequent, not only during normal transport work, but also during encounters with the enemy, but, although outnumbered in guns, our vessels always gained the mastery of the situation.

At the end of the first two weeks, the Flotilla received a most desirable reinforcement in the shape of a submarine chaser. This craft was triple-engined and triple-screwed, and could make thirty-five knots an hour; mounted with a 3-pounder Q.F. naval gun and numerous M.Gs., and carrying wireless, she was a valuable and formidable vessel. At first she too was employed in conveying stores to Schunga, but later, when other vessels were got into the water, she was set free to carry out very necessary reconnaissances preparatory to forthcoming operations on the Lake.

During these preliminary stages, the enemy "fleet," which consisted of about fifteen steamers, varying between 30 and 400 tons, and one large armoured motor boat, all better armed than our vessels, made no attempt to engage us in action.

On July 8th, only a month after the Flotilla had first taken the water, we suffered the severe loss of our submarine-chaser, which blew up owing to the bursting of a petrol tank. Fortunately she was near land at the time but, even so, five lives were lost, although seaplanes and other motor boats were quickly on the scene and saved several lives. The vessel was a complete loss, but the gun and M.Gs. were recovered by a diver.

About this time there arrived from England six reliable boats with naval crews, which enabled the Flotilla to be divided into "Fighting" and "Transport" sections, and to devote more time to operations.

Here, again, lack of space allows one to relate only a general outline of the gallant and successful operations of this force.

Early in August, co-operating with the Schunga Column, the Flotilla attacked and captured Tolvaya, together with some prisoners, a 400-ton steamer mounted with two 76 mm. field guns, a smaller steamer, and the armoured motor boat. This successful action was followed by others in co-operation with the advance of the Schunga Column, and, although no more hostile vessels were captured, the effect of the operations was of great assistance to the land forces, and kept the enemy fleet almost entirely away.

The final operation of this force was perhaps the most remarkable, when, flaunting its operations in sight of the Bolshevic "fleet," it steamed around the south of the Schunga Peninsula, landed with a few Russian troops near Siding 5, and marched inland and captured 300 enemy.

Miscellaneous.

To give a true perspective of the campaign, it is desirable to mention briefly a few points which were intimately connected with the operations which had taken place up to this time.

During the early part of August a mutiny, at Onega,¹ on the Archangel front, of several locally raised units, who murdered their British officers and took possession of the Onega area, constituted a serious threat to our L. of C., and the desirability of our immediate withdrawal to the neighbourhood of Soroka was considered. Fortunately the situation was cleared up before such a step was found necessary.

Another, and far reaching difficulty, was the exodus of almost all those troops who had wintered in the country. The French had gone in May, the U.S.A. railway troops and Royal Marine and Italian Companies went during June, and by the middle of August there had been a general exodus of men of all Corps and Departments; novices had to be initiated in large numbers in all offices, signal exchanges, etc. Meanwhile, excepting a few gunners, no reliefs had arrived, and our available land forces in the forward area consisted of the Middlesex and K.R.R.C. Companies, the Russian troops, the S.B.A.L., and a company of Serbs, with some R.E., and enough gunners to man only a proportion of the available artillery. The R.A.F. and reorganized Lake Flotilla remained almost intact.

This article would be incomplete without reference to the wide question of supply of the columns under the unique conditions which existed. Space will permit of only a very general outline of the main difficulties, but this will no doubt give the reader food for reflection. The transportation of supplies included the retention and requisition of all sailing and rowing boats arriving at Medvyejya Gora, for supply of the Schunga Column, the systematic collection from outlying villages of hundreds of country carts to traverse the fifty-six-mile route to the Right Column, the arrangement of civilian boats and transport to meet

¹ See map on page 664.

convoys at all points on the quicker route to the Right Column across Lakes Lijmozero and Pyalozero, and the feeding and payment of the hundreds of civilians employed in these services.

CHAPTER X.

FINAL OPERATIONS.

Towards the end of August the general situation underwent an entire change. Reinforcements began to arrive in batches almost as large as our whole fighting force had previously been, and it became generally known that, after an extensive attack, we should hand over to the Russians and should withdraw from the country.

The prospect of withdrawal was hailed with disappointment. Not only did we feel that we should leave the country without having accomplished anything material, but that we were leaving in doubtful safety those who had rallied to us in our time of need.

The writer is unable to give more than a general outline of the final operations.

Up to this time our line had remained practically unchanged. The clearing and occupation of Vakshozero, on the railway front, and the ejection of the enemy from most of the Schunga Peninsula effected the only changes of note.

It was intended to advance to a general line running from Konchozero to the railway about the River Nurmlis, and to hand over there to the Russian troops. Koikori and Ussuna were to be taken in a preliminary operation. The main battle was to commence about September 14th.

The distribution of troops was as follows:—On the right, at Svyatnavolok, was one British battalion less one company, a half company M.Gs., one section 4.5 howitzers, three 65 mm. guns, and one section R.E., with one company Serbs and one battalion Russians in reserve, and medical personnel. At Tivdia was a detachment of the S.B.A.L. and a half company Serbs, with two 65 mm. guns. At Kapaselga was one British battalion less two companies, and one company Russians, with one section 4.5 howitzers, one 18-pounder, and two 65 mm. guns, all drawn by mules, and one section 4.5 howitzers, one section 18-pounders, one 75 mm. gun, and two 3-pounders, all on truck mounting on the railway. In addition there was an armoured motor car. At Spas, in the Unitsa ara, was the Karelian Battalion of the Olonetz Regiment. On the Schunga Peninsula were two companies Russians. Each force, excepting the last named, was commanded by a British officer. In general reserve were various British and Russian units.

The following was to be the general action of each column. The Right Column, which on Zero Day should be at Koikori and Ussuna, would advance on Konchozero. The Tivdia Column would drive the enemy from Kav Gora and march on Lijma with a view to cutting off the enemy who were holding Siding 7. The Kapaselga force would drive the enemy from his position north of Siding 7, capture Lijma

Station and village in co-operation with the Tivdia Column, and send a detachment on to Siding 5. The Spas troops would clear the enemy from Mikheeva Selga and Yamka; and Russian troops, in co-operation with the Lake Flotilla, would cross from the Schunga Peninsula and march on Siding 5 from the east, thereby cutting off the enemy retreat.

The preliminary attack on Koikori, carried out by one British and one Serbian company, and a later attack with two British companies on Koikori, and one on Ussuna, both failed, the enemy having fortified what were already strong natural positions. Subsequent attacks on Koikori by Serbian and Russian companies also failed, and the advance of the right flank to Konchozero had to be abandoned.

The general advance commenced elsewhere, however, on September 17th and was a sweeping victory; the capture of 300 enemy near Siding 5, as already related, being especially satisfactory.

Our objective, the River Nurmlis, was reached speedily, and, excepting the unfortunate failure of the right flank, the operations were most successful. Our casualties were light, but we inflicted severe loss on the enemy, and thoroughly broke his front.

The taking over of the line and a considerable amount of stores by the Russian troops was carried out most amicably and successfully, and by the end of September our programme of withdrawal was well under way and some troops had already embarked.

By the 4th October there were no British troops south of Murmansk and Kola, other than those on the White Sea homeward bound, and by the middle of the month, a month after the commencement of the final thrust, the last troops embarked, and the evacuation was complete.



TANNENBERG FROM THE RUSSIAN SIDE.

By MAJOR R. B. PARGITER.

THE following is a translated précis of an article entitled, "Why the 1st Army of Rennenkampf did not assist the 2nd Army of Samsonov in August, 1914," taken from the fourth number of the *Historical Military Review*, now being produced by the Historical Section of the Bolshevik General Staff at Moscow.

The author of the article, General Radus-Zenkevitch, was, on the outbreak of war, Chief of Staff to a division in the 1st Army. He subsequently rose to be Chief of Staff to the Russian 6th Army in 1917, was compelled by the Bolsheviks to work in the above-mentioned Historical Section 1918-21, and is now Director of Military Training in the Lithuanian Army.

Immediately after the battle of Gumbinnen the Commander of the 8th German Army ordered a retreat to the west of the Vistula, and on August 21st this retreat was begun.

The Russians were not at first aware of it. Rennenkampf's Army Order No. 3 of the 22nd August says:—

"The enemy was checked along the entire front on August 20th; he retreated a few versts, and is now entrenching."

It was not decided to continue the advance of the 1st Russian Army until August 23rd.

By the 26th the 1st Army, by then reinforced by the 56th and 76th Divisions from the rear, and the 2nd Corps from the 2nd Army had reached the line Insterburg-Angerburg, encountering no opposition. Here the 1st Army received the following orders from the Commander-in-Chief, through General Oranovsky:—

- (a) Two Corps to be attached to invest Königsberg, until relieved by reserve divisions.
- (b) Remainder to continue the pursuit towards the Vistula. The 1st and 2nd Armies to press the Germans back to the sea and prevent them from crossing the Vistula.

This order tied the 1st Army to the investing of Königsberg, and preparations were at once made for forcing the line of the Deime by a turning movement of the right flank.

In accordance with this plan the following movements were carried out on August 27th:—

20th Corps to the Deime.

3rd Corps to region Wehlau.

4th Corps to region Friedland-Allenburg.

2nd Corps to region Gerdauen (less one brigade of 26th division directed on Rastenburg).

The advance was to be covered by the cavalry; 2nd Guard Cavalry on right; Cavalry Corps of General Nahitchevansky (2nd and 3rd and 1st Guard Cavalry Divisions) in centre; and 1st Cavalry Division (Gurko) to secure the left flank, with special orders to reconnoitre towards Lötzen, west of the Masurian Lakes. The 1st Independent Cavalry Brigade was attached to the 20th Corps.

The left of this advance was threatened by Lötzen, fortified and still in German hands, and it was therefore necessary to capture it.

The 2nd Corps in its advance through Angerburg accordingly detached two regiments with artillery and cavalry towards Lötzen. The force was to advance on the town on the 26th and demand its surrender within four hours, by which time it was calculated that the 2nd Corps should be behind the town. The Germans, however, refused to surrender, and the officer carrying the summons under a flag of truce was shot at, wounded, and captured.

The Commander of the 8th German Army had by this time been succeeded by Hindenburg. The latter decided to attack Samsonov and withdrew all but the Königsberg Garrison, and Landswehr and Landsturm detachments from Rennenkampf's front.

The staffs of the 1st and 2nd Armies were at this time in very bad touch with each other owing to constant changes of headquarters and bad communications.

The Commander of the South-West front, Shilinsky, became aware of the serious situation of Samsonov on August 27th, and accordingly instructed Rennenkampf to send his cavalry and the 2nd Corps to his assistance.

The following was the actual telegram received by Rennenkampf from Shilinsky:—

"The detachments retreating before you have been taken by railway to the front of the 2nd Army and are attacking near Bishofsburg, Gilgenberg and Soldau. Allenstein has been taken by them. Help the 2nd Army by moving your left flank as far as possible towards Bartenstein and your cavalry in the direction of Bishofsburg. The 2nd Corps is directed to advance towards Passenheim."

In accordance with these orders the 1st Army continued its advance on the 28th and 29th.

The enemy was holding the western bank of the Deime; further to the south, the advance was only opposed by small detachments of cavalry, Landswehr and Landsturm, which were retreating to the west and south-west.

On August 29th the 4th Corps occupied the front Eylau-Bartenstein; the 2nd Galligen-Bishofsburg. Nahitchevansky's Cavalry Corps moved to the Landsberg region and the 1st Cavalry Division to the region of Santoppen. There was no collision with the enemy except at Bartenstein, which was captured with some casualties. On this day the garrison of Lötzen made a sally.

On August 29th the Staff of the 1st Army received two telegrams. The first said: "In view of the hard fighting on the front of the 2nd

Army, the Commander-in-Chief orders you to send two corps to help it; the cavalry must be sent in the direction of Allenstein." The second telegram cancelled the order for these two corps because the 2nd Army had already begun to retreat. In order to conform, the 2nd Corps was instructed to retire on the 30th towards Allenburg, and the 4th towards Friedland.

The retirement of these two corps continued on August 30th, and on this day General Rennenkampf was informed by the G.H.Q. Front that Samsonov was heavily engaged, but that the result of the fighting was not known.* On this day the Germans for the first time began offensive operations from Königsberg, which were continued north of Velau on the 31st. They did not, however, succeed in penetrating the Russian trenches.

On August 31st, the 4th Corps withdrew behind the River Omet, and the 2nd Corps to the line Nordenburg—Mauer Lake. The Army Cavalry moved forward; Nahitchevansky's Corps towards Vormdit, and Gurko's Division towards Allenstein, but both were repulsed. The Germans on this day were also active, both along the Deime, where they threw a pontoon across, and also south of Königsberg, where they drove the 1st Guard Cavalry Division and the 27th Division (3rd Corps) back to Schwenau. On this day, for the first time, Rennenkampf received definite news of the destruction of the 2nd Army, and that the 1st Army was in danger. He received telegraphic orders to destroy the railways, and keep a special lookout in the direction of Lötzen.

A telephone conversation then took place between Generals Oranovsky and Mileant (the Chiefs of Staff of Shilinsky and Rennenkampf respectively). Mileant suggested a retreat to Insterburg, and a disposal of the Army so as to threaten the left of the German advance over the Masurian lakes, but said that he had not as yet put his plan before his general. General Oranovsky agreed to it. General Mileant then suggested putting the left flank corps as far back as Goldapp, and also pointed out that the cavalry was worn out, and that it would be better to desist from raids and employ it only for reconnaissance, especially on the left flank. To this also General Oranovsky agreed. Mileant then took his plan to General Rennenkampf, who, however, did not agree to it, on the grounds that a retreat would have a bad moral effect, and that a further German advance could be stopped from where he was. He ordered Lötzen to be captured and fortified, and the cavalry to continue their raiding activities.

On September 1st the 1st Army remained where it was, except the cavalry, which advanced against the enemy. The 1st Cavalry Division and the 27th Division were again attacked, but held their own. The 1st Army Staff received the news on this day that the Germans were concentrating against their left flank, but General Rennenkampf obstinately stuck to his front along the Rivers Deime and Omet.

*The battle was, however, by this time lost to the Russians. Ludendorff says in his book: "At Muschaken, in particular, very heavy fighting took place on the 30th, but without in any way influencing the issue of the battle."

On September 2nd the 27th Division was again attacked but repulsed the enemy, who retired in some disorder on Königsberg. The Russians did not pursue. Orders were issued on this day for a defensive line to be taken up along the Rivers Deime, Alle, Omet to Gerdaun, Nordenburg, Mauer Lake.

CONCLUSION.

An impartial study of documents shows that the responsibility for the Russian failure lies to a great extent on General Shilinsky. Owing to his directions the 1st Russian Army was retained in the northern sector and Rennenkampf and Samsonov were unable to act together. Rennenkampf was only informed of the critical situation of Samsonov when it was too late and practically impossible to help him.

The two important questions in these operations are :—

(a) Should the 1st Army have been given the task of investing Königsberg and (b) could it have given any more substantial help to the 2nd Army than it actually did.

The two questions are really one. It would have been better if, after the battle of Gumbinnen, the 1st Army, instead of being directed on Königsberg had been moved south-west, say to Bishofsburg; with a detachment left to mask Königsberg. From here it would have been in closer touch with, and more able to help the 2nd Army.

Only on August 29th was the 1st Army informed of the situation of the 2nd Army and ordered to assist it. The order came too late, and in spite of great exertions on the part of the 2nd and 4th Corps, effective help was no longer possible.

The main reason for the failure was, therefore, faulty and belated orders on the part of the G.H.Q. Front, due entirely to insufficient reconnaissance and bad communications.



FRENCH PRISONERS AT NORMAN CROSS.

IN the year 1808, there were 5,930 French prisoners confined at Norman Cross. The prison was divided into four parts, each part enclosed by a palisade, and a strong palisade surrounded the whole. A block-house with swivels, was built in the centre, and a guard house and a 6-pounder at each of the four gates.

The prison, with its yards, etc., covered forty-two acres of ground, and five guards and one picquet mounted every day. There were 231 men daily on duty.

Exclusive of the sentries from the blockhouse guard, there was a regular chain of them round the prison. These men marched a few paces on each side of their posts till they met those adjoining, and then returned, each sentry calling aloud the number of his post ("No. 64—All's well,") which passed in succession round the prison, and then recommenced with No. 1 post.

The officers frequently visited the sentries; patrols from each guard were constantly marching round the prison, besides the usual rounds of the Field Officers, etc., and the visits of the General Officer (Williams) at unexpected hours during the night. The sentries were not allowed to cover their ears with their caps during the night; yet, with all these precautions and the vigilance used, the prisoners frequently made their escape.

It appeared on examination of several of them, when retaken, that during the day they contrived to loosen one of the palisades, and then waited for a dark and stormy night to get out of the prison-house in which they were locked up for the night (built of wood only), to get into the yard, passed through the palisade, and lying flat on the ground, crawled along till they were close to the line of sentries; there they waited till the two sentries at that part met, and turned their backs on each other; they then rolled over their footpath, and waited till the sentries again separated, when they rolled a few paces farther on, and thus patiently and by slow degrees made their escape.

The guards always mounted with their arms loaded, and when coming off duty next day, marched to the parade ground, where quarter-masters attended, and received the powder drawn out of their muskets. They had directions to fire at every man attempting to make his escape.

The prisoners were a most ingenious and industrious set of men for seamen, but spent all they earned in gambling. In a very short time they deprived the poor people for many miles round the prison of employment, particularly the makers of straw-plait. If a watch or a pair of trousers wanted mending, or a piece of cloth to be dyed, they were sent into the prison. There were workmen of all descriptions, and the most beautiful pieces of mechanism were executed by them. The trade of that part of the country was so much injured by the prisoners,

that the General commanding received directions to search the prisons frequently, and to take from the prisoners all manufactured or unmanufactured articles which rivalled ours, and which were afterwards sold by auction. This was a very disagreeable duty for both officers and men forming the garrison. When the articles were ready, the prisoners usually buried or otherwise secreted them till an opportunity offered of disposing of them. It appeared to me a very unfair proceeding to these unfortunate men, as an immense quantity of pipe straw and other materials were clandestinely conveyed to them which must have passed our sentries, and became the property of the prisoners by purchase; yet everything was seized. The persons who sold them the straw, and the soldiers who allowed it to pass, were more culpable. I never could find out how it was procured or passed to the interior of the prison.

The coercion absolutely necessary to keep these men in order made the Superintendent, Captain Preston, R.N., and others very obnoxious to them. One prisoner—a petty officer, I believe—stabbed a turnkey, mistaking him in the evening for Captain Preston, for which he was tried and hanged close to the blockhouse guard while I was there.

It was a very insecure place to confine such a large body of men in, which made it absolutely necessary to keep the garrison under the most strict and rigorous discipline. After we left the place a brick wall was built round it, which made the prison more secure, and the duty not so severe. It was the confinement on board the prison-ships that the French prisoners complained of so much. At Bordeaux, in 1814, a French bookseller showed me a pamphlet suppressed by order of the French Government, though written by its desire. It contained false and exaggerated statements of cruelty on our part towards French prisoners, written for the express purpose of exasperating the people against us; but finding that it deterred seamen from entering their service, and made the conscripts desert, they were obliged to suppress the work.

I thought the prisoners fairly treated with regard to food—it was contracted for, as usual, but they were allowed to examine and reject any part of it previously to its being cooked, if found damaged or otherwise unwholesome.

Table d'Avitaillement pour les Prisonniers de Guerre en Santé :—

Sunday, Monday, Tuesday, Thursday and Saturday $1\frac{1}{2}$ lbs. bread, $\frac{1}{2}$ lb. fresh beef, $\frac{1}{2}$ lb. cabbage or turnips, 1 oz. Scotch barley, $\frac{1}{2}$ oz. onions, $\frac{3}{4}$ oz. salt, one quart of soup. Wednesday, $1\frac{1}{2}$ lb. bread, 1 lb. herrings, 1 lb. potatoes; Friday, $1\frac{1}{2}$ lb. bread, 1 lb. salt fish, 1 lb. potatoes.

The above, which is extracted from an old number of *Colborn's Magazine*, gives a good idea of the prison at Norman Cross and of the lives led there by the unfortunate French prisoners-of-war, some of whom remained there during eleven long years. The Treaty of Paris of May, 1814, meant deliverance and freedom for the 4,617 French soldier-prisoners then at Norman Cross; they early began to leave in parties of 200 and 300, and by August of that year only one prisoner

remained and he in consequence of illness, which prevented his removal. He, poor fellow, a soldier of the Italian Regiment of the French Army, found release in another way, for he died at Norman Cross of consumption and was the last of the 1,770 prisoners to be laid to rest in the cemetery adjoining the North Road. Two years later the buildings were demolished and the site sold, and the field remained for very many years just one of those places "where Memory sleeps."

In the early years of the present century France and England came nearer together than they had ever been before; in several places branches were formed of an *Entente Cordiale* Society, and under the auspices of this Society steps were taken to perpetuate the memory of the 1,770 French soldiers whose bones were interred at Norman Cross, by the erection of a Mortuary Pillar at the side of the Great North Road. The monument bears aloft the French Eagle with drooped head and pendant wings, and the white stone column rests on a square base having on each side gunmetal tablets, in which are inscribed the objects of the memorial and the circumstances of its erection. The whole rests on a stone setting, shaped to represent the outline of the outer limits of Norman Cross Prison. A bronze plate bears the following inscription:

IN MEMORIAM.

THIS COLUMN

Was erected A.D. 1914 to the Memory of
 One Thousand Seven Hundred and Seventy Soldiers and Sailors,
 Taken prisoners of War during the
 Republican and Napoleonic Wars with Great Britain
 A.D. 1793—1814
 Who died in the Military Depot at Norman Cross,
 Which formerly stood near this spot, A.D. 1797—1814.

Dulce et decorum est pro patria mori.

Erected by the *Entente Cordiale* Society and other Friends.

The Memorial was unveiled on the 28th July, 1914, and it is curious to notice that in the many speeches which were made on this occasion by Frenchmen and Englishmen, while there were many allusions to the old enmity, to the alliance of Crimean days, and to the good understanding of the present time, there was hardly a word uttered that seemed to foreshadow the imminent outbreak of the greatest of all wars in which the two one-time antagonists were to fight side by side.

The day chosen for the unveiling ceremony was a singularly happy one, for, by a curious coincidence, it was one hundred years ago that day, that the last prisoner was discharged from Norman Cross, and the gates were closed, never again to be opened.

LAND TRANSPORTATION IN THE LATE WAR.

By COLONEL M. G. TAYLOR, C.M.G., D.S.O., Assistant Director
of Movements.

On Wednesday, 5th October, 1921.

SIR T. E. CLARKE, K.C.B., K.C.M.G., Q.M.G. to the Forces,
in the Chair.

THE CHAIRMAN: Ladies and Gentlemen. The title of the lecture which we are to be privileged to hear this afternoon is "Land Transportation in the Late War." I have been connected with the new term "transportation" for a long time. I thought possibly I might be asked what the term "transportation" meant, for I do not think that at any of the lectures given in this building the term "transportation" has ever been used, so I thought before I came here I had better acquaint myself with its exact definition. I therefore called for a dictionary and looked to see what the word "transportation" meant. It was given, first of all, as "The act of transporting," which did not seem to me to help much. The next definition was "Transmission," which did not seem to me to help either. The next definition was "Banishment for crime," which also did not seem to fit, and the last definition was "Conveyance." So I came to the conclusion that perhaps the words "Land Transportation in the Late War" meant conveyance by land in war. I then came to the conclusion that that definition would not be any good, because, after all, in the late War we carried men and material by inland waterways. I eventually arrived at the conclusion that for the moment there was no specific definition of the term. It is a term that came, I think, from the other side of the Atlantic. It is used by the Americans and in the Dominion of Canada to represent the transportation warrant which took their men across, I believe, the whole of America, the whole of Canada, and the ocean. It is a term we have never used. No doubt, however, the lecturer will be able so to explain matters that we can picture in our own minds what the exact definition of the term is. Colonel Taylor controlled in France a section of the Quartermaster-General's Staff dealing with what is called in the War Office "Movements." I can give no better definition of that term than to say that he was responsible to a very large extent for—to use another word which has come into use since the War began—implementing the orders issued by the Quartermaster-General. His experience therefore has been great. His experience taught him the difference between movements in stationary warfare, movements when you are hurriedly going away from a foe who is pressing you backward faster than you want to go, and movements when you are pressing a foe back quicker than he wants to go. In introducing him to you I think I can say that his experience, if equalled, certainly has not been excelled.

LECTURE.

GENTLEMEN : At the outset of this lecture I must apologize to you if it appears that in dealing with the subject of " Land Transportation in the late War " my remarks are coloured chiefly by experience in France and Flanders. No one is more appreciative than I am of the many problems affecting land transportation which arose during the course of the Great War in the United Kingdom and in theatres of war other than France and Flanders, and of the skill with which they were attacked and difficulties surmounted. Nevertheless, land transportation is a many-sided subject, and each theatre of war had its own peculiar problems to deal with. Consequently to attempt to deal with all of them is manifestly impracticable, and I think it preferable, therefore, to confine myself to one theatre, where at one time or another practically all aspects of the transportation problem assumed importance, and to review what happened in that theatre alone. I trust that this course will commend itself to you.

Before tracing the course of events in France, however, and at the risk of repeating what must be to many of my audience axiomatic, I should like to remind you that while one may consider transportation problems as they arose in any particular theatre, the fact must never be ignored that these problems were, as a rule, merely manifestations of causes which arose at places possibly remote from the theatre in question. Transportation in any area is, in other words, merely a link in a chain, or rather a small area in a network, of processes which proceed simultaneously in many widely separated parts of the world. Any disturbing cause in one part of this network is bound to have its repercussion in the particular locality under consideration, and the delicacy of the machinery involved is such that a slight maladjustment in one process may have a considerable and even a disproportionate effect for evil in the supply of an army. Perhaps you may incline to the view that I labour this point unduly, but I cannot help feeling that when it is possible to study the Great War as a whole, and as a matter of history, it will be found that many of our earlier troubles in the struggle were due to an imperfect grasp of this truth. Transportation was the cause of our greater difficulties—not fighting power, leadership, or the more active side of military training.

However that may be, the melancholy truth is that in 1914 our ideas were rudimentary. Our small force of six Divisions went to France on their great adventure with no more than a rudimentary organization for transportation. We had an efficient organization for " transport " in the form of road transport, and for sea transport, but we had only a small staff of officers—thirty-one all told—to ensure that our interests were adequately safeguarded in that most important link of all transport services in war—the railways. Co-ordination between the three—sea, rail, and road—was not provided for beyond the provision made in the normal staff organization of the Army, under which the Quartermaster-General's branch of the staff is responsible for movement as a whole, and no provision whatever was made for

controlling the technical operation of such important points as overseas ports.

What appears now to be a want of foresight cannot be laid to the account of those responsible for directing affairs at the time. The whole of this country was organized, and had been so organized for many years, in separate watertight compartments in regard to transportation. Ports, railways, canals, roads, each undertaking formed an independent organization, the dependency of one upon the others being sufficiently assured by commercial usage. The necessity for any special co-ordination of the functions of each with those of the others had never arisen because the capabilities of each were equal to the strain imposed by civil movement in peace. It remained for the unprecedented strain imposed by the Great War to bring out clearly that something more was needed if chaos were to be avoided, and that something was the application of the science of transportation. In 1914, military opinion was moulded upon civil practice, although the organization put into operation for the movement of our six Divisions to France was in effect a fine example of co-ordinated movement.

Our French allies, as a result of their experience of forty years before, realized that in any future struggle with Germany the French railways would play a predominating part. The French War Office had, therefore, given the railway problem anxious thought and had evolved a method of military control which, tested out in manoeuvres, seemed to assume satisfactory operation in war. I need not go into details, but in general the plan was to establish a military hierarchy at all points where the technical control of railways was exercised, and to utilize the civil railway administration to the fullest possible extent under the general control of this military hierarchy. The two together formed combined committees exercising absolute power over railway operation, and were represented throughout the systems at railway companies' headquarters, important district headquarters, regulating stations, depôts, railheads, and even wayside stations at which quite insignificant military movement was contemplated. The organization was only imposed in what was called the "Zone des Armées." In the interior of France the control of railways remained independent of the military hierarchy.

A similar organization, but developed to a lesser degree, was created for the ports. It is probable that in preparing for a future war France did not have in mind quite so stupendous an affair as that which actually took place, and so for her the ports would not have appeared of so vital a concern as her railways, since most of her supplies would have been drawn from internal resources. But the point I would like to indicate is that with all her experience of Continental war, with all the study she had made of probable requirements of modern armies, even France had not realized the need for complete co-ordination of her transport services, and thus had created a port organization quite independent of her railway control.

It was arranged with the French War Office that the French railway organization for war would carry out for our Army the whole of the railway transport services for which it was designed as for the

French Army. In the light of our then knowledge this offer was all that appeared desirable, and ensured the supply of our Army *pari passu* with that of the French. We had no reason to think that anything more was wanted, and so the British Expeditionary Force contained thirty-one officers for railway transport services, and none for transportation proper.

Experience showed almost at once the immense difficulty of arranging the movement, both of personnel and material, by rail of a force whose system of supply differed fundamentally from that for which the railway control system had been designed. All that need be said is, that by the continuous use of expedients our force was moved and was supplied somehow during that first month. None of the arrangements made were really satisfactory, and this despite the utmost willingness shown by our Allies in meeting our demands. The difficulties arose from a matter entirely beyond our power or that of the French to remedy, namely, a fundamental difference of organization. Matters went smoothly enough at our overseas base ports, and our road transport organization worked marvellously well. It was the railway factor which caused anxiety.

The arrival of reinforcements, heavy artillery, Territorial Divisions and, close on their heels, the new army formations caused rapidly increasing demands for transportation; and very early, actually in October, 1914, it became clearly evident that our arrangements for rail transportation would need a drastic revision. The history of these early days of war is not one of failure; on the contrary, it is a history of success under adverse circumstances, of a never-ceasing struggle on the part both of the French and of ourselves to make an unsuitable machine carry out vital work, and it is impossible not to look back to that period without a very lively appreciation of the resources shown by those whose daily work it was to secure somehow that the troops got what they needed. I would not like to assert that they got *all* they needed, but at least our operations did not become disastrous by reason of any complete failure to get supplies up to the troops.

As already stated, the first arrangement for the use of railways was that the French Military Railway Organization should operate for us exactly as it did for the French Army. This arrangement made it necessary for us to have a service, the Railway Transport Establishment, capable merely of telling the French authorities what we wanted and leaving the rest to them. Our duty was confined to loading and unloading stations, and we were to have no concern with what happened during the time in which our men and material were in transit. But our men had to be fed, watered, and looked after generally while *en route*, and in this respect the arrangements made for the French troops did not suit our men. Sometimes the arrangements were lacking or insufficient, for we travelled by routes differing from those in use by the French. As regards material, difficulties cropped up in connection with lost trucks—vital supplies perhaps cut off a train and left at some unknown wayside siding because of a hot-box. Late arrivals at rail-head, alteration of route on account of some traffic block of which we knew nothing, and similar mishaps created a feeling of uncertainty at

the front in regard to the arrival of necessities. It was inevitable that there should be a period during which the French and ourselves could shake down and get used to each other and understand requirements, and for this reason, as well as on account of the many small instances of miscarriage, it became evident that we must keep touch with trains in transit and that we could not work on a principle which confined our control of rail movement to terminal points.

The first remedial step was to create Railway Traffic Offices. These worked in touch with the Commissions Regulatrices, a higher grade of the French Military Control than the Commissions de Gare, with which the Railway Transport Offices worked. We were thus enabled to keep in touch with our railway traffic in transit. At once we were able to warn forward arrivals, to regulate changes of route, and to bring pressure to bear on the lower French military organization where difficulties arose in the case of specially important movements.

Traffic Offices were a great step forward, and remained to the end of the War, developing as the force developed, and able to the end to keep a most efficient control on our railway movements. But Traffic Offices by no means solved our difficulties: they were only the first step.

Up to the date of the re-establishment of our bases at the northern ports and the move of our force from the Aisne front to Flanders, the responsibility for movement between the base ports and the front had been divided between the I.G.C. and the Q.M.G. at G.H.Q. The former was responsible for rail movement to railhead and also for the road movement to rendezvous, the latter for the onward transportation by all and any method to the troops. Thus the railways, as a whole, were a Line-of-Communications Service. The circumstances of the Mons retreat, the advance to the Marne, and the battles of the Marne and Aisne clearly showed that the I.G.C. could not keep in touch with a rapidly changing situation, and that the control of road movement in front of railhead could not be exercised effectively from any organization to the rear of G.H.Q. Transfer of the control of road movement to G.H.Q. brought with it the power to select railheads, for the situation of the latter could not be fixed without reference to the road routes leading forward from them. On the other hand, selection of railhead could not be made without reference to the rail routes leading to them. The latter, in their turn, depended on matters of railway operation, affected constantly by questions of local congestion and causes of interference arising in the railway system to the rear. The only remedy, and one which was adopted definitely about the same time as the establishment of the Traffic Offices, was to withdraw the control of railway movement from the I.G.C. and place it under the Q.M.G. at G.H.Q. This step necessitated the creation of a railway office at G.H.Q., which logically became the headquarters of the Traffic and Railway Transport Offices, and thus came into being the Railway Directorate with its headquarters at G.H.Q. The Director of Railways, on a plane one above that of the Traffic Offices, could

deal in railway matters with a still higher grade in the French organization, and this brought us into intimate official touch with the French Commission de Réseau, which was in absolute control of the whole of the railway system serving our force. The benefit drawn from this liaison was incalculable, for at least we were able to represent in an expert technical manner our needs in railway transport to the technical authority capable of satisfying them. Two facts are worthy of note. One is that it took us nearly three months to build up what after all was only a very rudimentary railway organization of control, and that during all this critical time we were open to serious disaster since the main link in our chain of communications was imperfect. The second is that the control of the ports still remained in the hands of the I.G.C., an authority independent of that which controlled the means of onward movement from the ports to the troops.

During the long phase of stationary warfare which followed the first battle of Ypres up to the Somme offensive in 1916, matters went smoothly enough under the control of the Q.M.G. The increased demands due to the expansion of the force were met satisfactorily by the mutual good will and co-operation which was a characteristic of the relations between ourselves and our Allies, and the gradual development of the Railway Directorate commensurate with the requirements of circumstances ensured an adequate flow of men and materials to our armies. It remained for the strain imposed by active operations to come to show up the weak points in our organization. This came in 1916, and the cause, as I shall attempt to point out, was primarily a non-appreciation of the real meaning of the service of transportation.

The expansion of the French Armies reached its maximum in 1916. Coincident with it both ourselves and our Allies reached a high degree of production in munitions of war. Consequently, it was judged that the psychological moment had come when offensive action on a large scale might be attempted. Hence—for us—the Battle of the Somme. It was this battle which imposed such a strain on the railways of France that they were unable to cope with it, and which was the cause of the reorganization of the whole service of transportation. Had we known as much about transportation in the spring of 1916 as we know now, we might have appreciated the situation somewhat as follows: "We may blow the enemy clean out of sight, but if we do we won't be able to follow up our success by an advance which would give us any material advantage. We can gain a moral advantage, and that alone." No one, however, had the experience, and even had experience been available it would have taken considerable courage to appreciate matters thus, and so 1st July, 1916, came with high hopes.

The first evil symptom experienced was the lack of trucks at loading points. Following this we were notified that even when trucks were available trains would have to be strictly limited in number below what we knew the carrying capacity of trunk lines, because of lack of engine power, lack of drivers, lack of coal. Then came a reduction in the capacity of the lines themselves because the shortage of maintenance labour and material made it impossible to keep them in condition.

These, and a number of lesser symptoms which in the aggregate became serious, soon indicated that our railways were breaking down. Repercussive effects began to be felt for the first time. The ports were under the I.G.C. and independent of railways: the latter failed to clear away imports, yet imports came in in ever-increasing quantities in satisfaction of the I.G.C.'s demands which themselves were based on the requirements of the troops for operations planned on a generous scale. Consequently, ports, transit sheds, quays, and wharfs became congested with material of all sorts. Ships arriving loaded could not unload. Stores wanted urgently at the front could not be moved because they became buried beneath mountains of other stores not yet required forward. Gradually movement as a whole slowed down, and complete cessation was threatened.

At the same time our Allies became seriously alarmed at the state of affairs developing behind their own armies in a manner exactly similar to what we were experiencing. They were dependent upon imports to a far greater extent than they had originally contemplated owing to the great excess of demand over the productive capacity of the country made by modern methods of warfare. Consequently the imminent breakdown of the railways of France was not a local affair threatening one army alone, it was universal—a matter of miscalculation of capacity or of faulty organization. For the French it was the former, for us, as we began to think, the latter.

Whatever the cause, we and our Allies were face to face with a most serious danger. Our Allies turned to us for help, asking for trucks, engines, railwaymen, and fuel to be brought from England, and the C.-in-C., while demanding all these things from home, called also for a man of experience and reputation to come over and set our organization to rights—to connect up ships, ports, railways, and roads, and to put the whole affair on a working basis. I would like to remind you that all this happened during the battle of the Somme, up to then the greatest battle ever fought—it happened at a time when we were committed to action, when we could only carry on and could not back out without a confession of weakness which must have had the most serious consequences. And one cannot evade the truth that we could have foreseen it and taken measures to meet it *before* the battle, had we only studied earlier the science of transportation and its practicable application to war.

The events which followed are a matter of history well known to all students of the Great War. Sir Eric Geddes came over and saw what was wrong and devised the full organization for transportation which was required. He linked up ports to railways, railways to roads, inland waterways to both. He secured the regulation of sea transport with direct reference to port capacities and to the possibilities of clearance from the ports inland. He developed ports, railways, and roads by construction until they could reasonably be expected to carry out the work required of them, and he brought the whole under one unified control responsible for co-ordination of effort. He showed what *transportation* meant, and how each variation in one process of movement must inevitably have its effect on the others, and he secured

from home men and plant in sufficient quantities and of the right type to relieve the situation entirely both for us and for our Allies. Finally, he, as Director-General of Transportation, took command of our new organization, got it into running order, and controlled its operations until it found its own feet.

By Christmas, 1916, the railway problem was well in hand, and we knew, in theory at least, how to meet future transportation troubles. But the creation of the transportation organization did not put an end to all transportation difficulties, and we experienced many crises between 1916 and 1918 in connection with transportation which though not comparable in gravity with that of the autumn of 1916 yet caused many anxious periods.

Perhaps the most instructive of these is that connected with mechanical transport. Throughout the period 1914-1916 the M.T. services of our army worked to perfection.

Perhaps we in the Army have made a more specialized study of this form of transport than we had in the case of the railways. However that may be, the scale of M.T. provided and maintained in the French theatre by the Director of Transport G.H.Q. was amply sufficient for our needs, so long as it was not called upon to undertake undue proportion of long distance work to relieve railways. As a natural result, however, of our experience of railways, M.T. began to be regarded as the most reliable form of transport in the field, even for really long distances, except in such forward country as obviously could be negotiated only by horsed transport. As a consequence, we gradually adopted a policy of forward reserves in large quantities located where they could be loaded to road transport (or, later, to road or light railway transport at choice), and thus became to a certain extent independent of the regularity of flow which we had come to regard as beyond the powers of standard gauge railways under war conditions.

The natural result of such a policy was that the mechanical transport of the force gradually deteriorated due to overwork. Deterioration was not very marked in the early stages, and in 1916 and the earlier part of 1917 the course of events was not very obvious to the troops, however clearly it may have been appreciated by the directorate of transport responsible for the provision and upkeep of the vehicles. The result, which was clearly obvious, was the effect on the roads of the heavy use of M.T. So great was the deterioration of the roads, and so numerous were the bye-ways which had to be strengthened to carry M.T.—many of which were merely country lanes on a mud foundation before the war—that the provision of stone for repair became a serious factor of rail transportation. To a certain degree the increased use of road transport due to lack of railway facilities was thus responsible for an increased use of railways; it therefore partially defeated its own object of relieving railways.

The alarm caused by the deterioration of vehicles and roads had its effect in promoting the use of light railways. The latter saved the wear and tear on M.T. vehicles, and even though ballasted demanded less tonnage for that purpose than road repairs required in their

absence. Hence, in 1917, about the time of the Passchendaele offensive, the policy was to utilize light railways to the greatest possible extent in order to extend the standard gauge railways and to act as a distributing agency to points as near the troops as the enemy would permit. The Passchendaele offensive opened, one might say, almost on a light railway basis. Reliance was not, of course, exclusively placed on light railways, but they were highly organized in the battle area and were regarded as a most important factor of the supply system between forward reserves and unit transport. The work of the light railways, though under a directorate (D.L.R.) separate from that controlling the standard gauge traffic (D.R.T.), was co-ordinated with it both at G.H.G. and locally in Army Areas through the D.G.T. and his representatives on Army Headquarters.

Unfortunately, at Passchendaele we met with a concentration of hostile artillery on a scale more intense than we had hitherto experienced. This enemy artillery was apparently chiefly used against our forward communications—light railways in particular—rather than against our advancing troops. In certain sections it appeared to be the aim of the German command to paralyse our advance by denying the supplies requisite to enable it to be continued rather than by overwhelming the troops themselves. Light railways under these circumstances suffered heavily. Many a train load of ammunition or other vital supply was locked up by breakages on the line in front and behind, and shot to pieces before the lines could be repaired. It was found that lorries, on the other hand, could usually get round craters or other obstructions on the roads, and unless actually hit managed somehow or other to get through in the large majority of cases.

The deduction may safely be drawn from these operations that reliance cannot be placed upon light railways in the face of intelligently directed enemy artillery fire, and until the latter is subdued reliance must be placed largely on road transport as the medium of supply for the troops.

The value of light railways under such circumstances is largely a matter of opinion, but the fact is that the pendulum swung rather heavily against light railways in shelled areas after the experience of Passchendaele. During the winter 1917-18, therefore, the policy turned again in the direction of standard gauge, plus road transport, as the normal method of supply in battle areas. Light railways were to be used as much as possible in quiet localities so as to save wear and tear on roads and road vehicles.

About this time it became a matter of knowledge that our armies were going to be called upon to face the culminating enemy effort in the spring of 1918. Standard gauge railway communications were once more in really good condition owing to the work of the Roads Directorate, and to efforts of the home authorities in supplying men and materials to make good French deficiencies. But our road transport was going from bad to worse, and there was trouble in our overseas communications due to the unrestricted submarine policy of the enemy, which made economy of petrol a matter of necessity. It was therefore decided :—

- (1) To withdraw into G.H.Q. reserve every M.T. vehicle which could be spared from units, and to recondition them as quickly as possible.
- (2) To make the fullest possible use of light railways during the quiescent winter period, and thus to save the roads against the time when they would be vital to us. Meanwhile to carry out the fullest possible programme of road repair.
- (3) To take standard gauge railheads as far forward as practicable, so that troops could draw supplies directly from as many as possible with their unit horsed transport.
- (4) To form general purpose M.T. companies in G.H.Q. reserve from the reconditioned lorries withdrawn from formation.

The necessary measures to give effect to this policy were put into force with the greatest energy, and by March, 1918, when the enemy opened operations with the great attack on our Fifth Army, the necessary work of reconditioning was perhaps sixty per cent. completed; we had available six M.T. companies in G.H.Q. reserve in good condition and ready for immediate employment, more in process of formation, and we had made a saving of something like 4,000 M.T. drivers who could thus be released for fighting purposes. At this time, too, the roads, as a result of winter repair work and careful nursing, were better than they had been for a long time back. On the other hand, broad-gauge railheads were very far forward, and light railways, where they existed, went almost into battle positions. Consequently the enemy attack, meeting with success, overwhelmed light railways and broad-gauge railheads very early—necessitating rapid railhead changes.

These happenings, combined with the effect produced by a policy of sustained enemy attack from the air on all important railway junctions and defiles, resulted in an increasing dislocation of railway traffic operations, and we were soon forced to rely heavily on our road transport. Thanks to the policy adopted during the preceding winter, we were able to draw the fullest advantage from the latter while at the same time securing the greatest possible economy in its use by allotting the G.H.Q. reserve companies to formations which required them most, but only for so long as they were actually required. Meanwhile, we continued the reconditioning of the vehicles withdrawn from units, and the formation of additional G.H.Q. reserve companies with the greatest possible speed. In addition, at our urgent request, the War Office formed two additional G.H.Q. reserve M.T. companies and sent them overseas.

During March and April, 1918, the railway situation became increasingly difficult as a direct result of enemy action. The culmination was reached in May, 1918, when the great lateral line from St. Just, via Amiens, to Hazebrouck had to be abandoned as a railway route owing to enemy shell fire. Our armies were then penned into a narrow strip of country, possessing only one lateral railway communication, through Abbeville and Boulogne. Most of the forward engine depôts had been lost, and several of the important engine depôts remaining were so close to the enemy as to be practically useless, and our one lateral, along which all reserves and reinforce-

ments drawn from one part of the front to be thrown in at another had to be moved, was threatened daily and nightly by persistent air attacks on the bridge over the Canche at Etaples. At this period the situation might be described, without exaggeration, as most serious, and the railways were so disorganized as to be rapidly approaching a state in which they could be disregarded as a factor in the military situation for large movements. It was only the work of the road transport service which enabled the force to be maintained.

This period of the war must always be a source of great interest to military students of transportation. It shows so clearly the powers and limitations of railways when faced by a resolute enemy. It shows also so clearly the elasticity and adaptability of road transport, and the need to hold as much of the latter in reserve as possible. It shows, also the power of aerial attack when directed against railways, of which our experience is an example, and when directed against roads, of which the Germans had a very disagreeable experience during the latter half of March on the Albert—Bapaume—Cambrai road. It shows the danger of *over-advanced* railheads, which cause the creation of *over-advanced* dumps, and of the undesirability of frequent railhead changes. Also, it brings out very clearly the advantages of a generous scheme of railway construction of duplicating routes, making avoiding lines, alternate bridges and other defiles, and of providing temporary engine depôts well sprinkled about and not too far forward.

The advance following the final enemy defeat and signature of the Armistice is also prolific of lessons to the student of military transportation. It affords a good example of limitation in the rate of railway reconstruction, even when undeterred by enemy action, excepting, of course, the delayed mine, and as a result of this limitation the impossibility of moving a strong force forward at the rate it can march for any length of time and of keeping it supplied while in movement. Where the enemy have had time to destroy railway works, even though this destruction be confined to cutting the bridges, and demolishing signal equipment, electrical communications, and engine water supply installations, the possible rate of advance is very slow indeed.

You will probably have remarked the omission in this lecture of a very important factor in the transportation problem, namely, the Inland Water Transport Service. At the beginning, I mentioned that each theatre of war had its own peculiar problems of transportation, but that for obvious reasons one could not consider all the theatres concerned in the recent War. Inland water transport is one of those transportation services which is better considered when studying the Mesopotamian Campaign, for in Mesopotamia the I.W.T. was the mainstay of military transportation, and it is there that the problems which arose and the solutions adopted offer the best medium for study. In France and Flanders the I.W.T. was really a secondary service, and important though the service undoubtedly was, it did not rank with the railway and road services in its bearing on military operations. I am, of course, disregarding the Cross-Channel Services both by barge and train ferry which, though operated by I.W.T. and of the first importance, hardly came within the definition of land transportation.

France is a country well laid out for inland water transport, and Belgium also. A very considerable canal and river traffic proceeds normally in peace, and probably had the War continued of a stationary character for longer than it actually did fuller military use would have been made of the available navigable waterways. As it was, the fact that our armies grew from small beginnings, and that with their growth the railways developed sufficiently for all needs, caused less attention to be given to organizing an Inland Water Transport Service during the earlier stages than might perhaps have been the case under different circumstances. It was only in 1916, when serious doubts arose as to the railway capacity that relief was sought by a more extensive use of inland water transport. The latter service was thus only incorporated in the official transportation scheme as an effective agency on the reorganization of 1916, when the Directorate of Inland Water Transport was co-ordinated with the remaining transportation services under the Director-General of Transportation.

From its nature, canal and river transport is more suited to bulk carriage than to detailed distribution. From a military point of view, too, it is slow, albeit reliable, and thus it is not easily adapted to a rapidly changing military demand. Its chief utility lies rather in the relief it can afford to the overtaxed railway system by carrying material in bulk for which there is a steady demand, such as road repair stone, timber, engineer material for installation works, or coal, to points inland from which distribution can be made by road transport or light railway. In carrying out this sort of work the I.W.T. rendered most valuable service in France, and the tonnage transported increased progressively from 1916 onwards. The main limitation from which it suffered lay in the fact that so far as the area of the British armies was concerned, the navigable portions of the canals did not go very far forward. Canals require a good deal of maintenance, which must be applied continuously if they are to be kept in a condition of utility, and they are easily damaged by an intelligent enemy. The years of neglect between 1914 and 1916, when we tried to make real use of the canals for the first time, had the natural result that a considerable portion of the existing waterways had deteriorated to such an extent that their repair was more than we had either time or labour to undertake. Later on, when the I.W.T. organization had developed sufficiently to undertake this repair work, it had grown to present such a formidable task, especially in the forward areas within enemy artillery range, that the service never really overtook arrears. We were never able, for these reasons, to draw the advantage which under more favourable circumstances the inland water system of the country would have afforded. The lesson to be learnt from what we actually were able to do is that even in a country possessing a highly organized road and railway system the use of inland waterways for military purposes should be encouraged to the fullest practicable extent from the outset.

Before leaving the subject, mention should be made of one or two of the uses we made of canals which were of particular value.

We found that where they could be used for this purpose, canal barges afforded the best possible means of evacuation of sick and

wounded, both men and animals. The lack of jolting and jarring inseparable from road or rail transport proved an inestimable boon to badly wounded cases, and there is no corresponding disadvantage for the length of time spent on a voyage to a base hospital by canal did not militate against the cases. The barges—well decked, cool, and airy—made beautiful hospital wards, and space was ample for nursing staff and all medical necessities required to ensure the care of the cases, and, a matter of great importance, ample provision could be made for plenty of water. Similar considerations apply, of course, to veterinary cases.

Another useful purpose served by the I.W.T. was in connection with forward water supply to troops. Barges, which we called "Infiltration" Barges, were fitted up with power pumps and water pumping appliances and were well supplied with delivery hose. Such a barge, complete with trained crew, would be sent as far forward as it could get, and lying there moored to the canal bank it was capable of taking canal water, pumping it until fit for drinking purposes, and pumping it into storage ashore, or direct to unit water carts. A mobile water-supply installation of this sort can prove of the greatest use, especially in cases where troops are concentrated prior to some operation in numbers exceeding the capacity of the normal water supply of the area—these barges being unloaded and therefore of light draft, and not being required to move frequently, can penetrate into canals quite unfit for normal transport work; they can therefore be taken by horse-towage, poling, or some other expedient, comparatively far forward.

Even these services do not end the useful purposes to which the I.W.T. can be put. I.W.T. plant by its nature is most useful for the construction of temporary bridges and similar military works required in the tactical employment of the troops. The maintenance personnel of the service, being skilled in the practice of water retaining works, are of use in the design and construction of drains and similar works to create inundations, and to put the matter shortly, the I.W.T. provides a body of men and class of material which may come in very handily indeed during the course of operations.

The last point to be dealt with is that of the ports. The control of port operation, independent up to 1916, was brought into the scheme of transportation on the creation of the Directorate General of Transportation. While port operations inevitably recall thoughts of ships and sea transport generally, we had found that important though the seaward side of them may be, the landward side is, as a matter of fact, of equal importance. It is of no use to send more ships in a given time to a port than can be unloaded in that time at the berths available, but it is equally useless to unload more cargo in a given time at the quays of a port than can be cleared away in that time from the port by the transport agencies working inland from it. This, of course, is a most evident truth when the matter is given reasonable consideration. Yet it would almost seem to be of universal practice, even in peace time, to construct and develop port facilities with an eye to the seaward side, and almost to neglect the landward aspect.

In France, it needed the railway crisis of 1916 to open our eyes to the matter. The creation of a Docks Directorate, linked up to the Directorate of Railway Traffic by the general control exercised by the D.G.T., was the solution of 1916. The Director of Docks had only one duty, namely, to speed up transit through the ports, but in doing so he had to avoid congestion. He carried out this duty firstly by improving the methods of working at the ports and the plant used for loading and discharging shipping, by keeping the Director of Railway Traffic fully informed of his needs, present or future, for clearance by rail from port areas, and finally by regulating the flow of imports so that each port dealt with what it could best handle, both on the seaward and landward sides, in quantities which lay within its capacity. Under this organization system replaced the haphazard lack of method in force prior to 1916, and the justification for the additional officials and expensive plant rendered necessary by its creation will be found in the immensely increased movement made possible by its operations. The result was to remove all anxiety in connection with the supply and maintenance of our armies, at any rate so far as the working of the base was concerned.

One important deduction can be drawn from our experience of port working in France. It is that a port must constitute a reserved area, and that in the port area no warehouses of any sort can be permitted nor can any material be allowed to be stored in the open. The whole of a port area must be reserved for movement, and everything inside the area must be in a state of transit, not allowed to stand still for an instant longer than cannot be avoided. This means that continued pressure must be brought to bear on consignees to remove their consignments either by charging a heavy demurrage rate or by a similar process, or else that the port authorities must remove consignments themselves to temporary warehouses situated outside the zone of movement. The military practice, the latter, is the principle we shall expect to adopt as being the more suitable, and we did adopt it and work it successfully in France.

So long as the base port areas were sufficiently large to absorb our imports into dumps and warehouses situated therein there was no difficulty in operating the ports, but immediately the imports increased to an extent which taxed the railway clearance facilities, congestion made its appearance and warehouse accommodation inside port areas was no longer able to meet our requirements. One of the steps we took to remedy matters was to create inland dépôts of all sorts outside the congested port areas, though within reasonable distances of them, and to convert every scrap of warehouse—dump accommodation inside the port areas into transit sheds and spaces. Bulk movement coming in by sea was transferred at once, in bulk, through the transit sheds to dépôts, specific demands being met from these inland dépôts instead of from the base ports as heretofore.

The improvement effected was very marked. Congestion largely disappeared, though constant care was still needed to prevent its reappearance owing to clearance delays from transit areas. The turn-round of ships was accelerated, and demands from the front were

satisfied with far less delay. There was little or no difficulty in supplying emergency material at short notice, and the total tonnage passing through the ports was enormously increased. Such advantages are not to be gained without accepting some disadvantages, and perhaps the greatest of these was the lack of check on arriving consignments. To the end of the war we were not able to devise a method which, while not reducing the rate of flow through a port, would yet enable losses on stores to be definitely traced and the responsibility fixed on ship, port, or dépôt. Consignees, who were in most cases the administrative services and departments, could make no effective check on their consignments until arrival at inland dépôts. By that time the consignments had passed through so many hands, checked in bulk only if at all, that losses could not be brought home. In this case, however, the end justified the means under the particular circumstances prevailing, and if in future we have to face a similar problem we shall probably have to adopt the same solution.

Men, animals, and stores were all treated separately as regards transportation. In the ports men and animals were dealt with by the Embarkation Staff in conjunction with Base Commandants and the local remount and veterinary organizations. Stores were dealt with exclusively by the Directorate of Docks in consultation with the officers in charge of dépôts of the services concerned.

On the railways the Traffic Officers dealt with the whole, but at important stations a special staff of Railway Transport Officers dealt, as a rule, with movements of men and animals separate from that concerned with store movement. At railheads and unimportant stations they were, of course, dealt with by one railway transport office. In front of railheads the movements were again largely separated. Men passed through the hands of special staffs at reinforcement dépôts, leave camps, and rest camps until they reached their units. Animals were moved by the Remount and Veterinary Departments through their own organization of advanced dépôts, staying at camps and veterinary hospitals in direct consultation with units. Stores were taken over and delivered to railheads through the media of Divisional M.T. companies and trains and M.T. companies allotted for Corps and Army troops or by light railways supplying transport at Divisional, Corps, and Army demand, for the stores destined for the troops of those formations. But, while our organization was arranged in this manner to deal with different classes of conveyance, in the matter of theoretical transportation everything was dealt with on a common basis, consignor and consignee services being kept in continuous touch with the progress of movements in which they were interested through the liaison work of the various Transportation Directorates.

A matter of the greatest importance when transportation facilities were strained was to settle the order of priority under which the acceptance of traffic offered by various consignors was to be regulated. This was a matter which had so intimate a bearing upon operations, contemplated or in progress, that the decision could not be left to local authorities at the consignors' end. It was a matter of high staff policy. An order of priority was laid down for general use under which food

supplies came first and other materials in the order in which they could best be arranged on the principle that anything which the troops could manage best to do without had the lower priority. But a general order would not meet the case, and daily decisions were given as regards special consignments—or even ordinary consignments where special transportation difficulties arose—at a Railway Conference held daily by the Deputy to the Quartermaster-General at G.H.Q. At this conference the interests of the troops were represented by competent staff officers, and the consignor services and transportation directorates each sent representatives to present their views. By this means it was possible to take a clear view of the necessities in each case and to give an impartial decision to the best interests of the force as a whole.

DISCUSSION.

THE CHAIRMAN: Ladies and Gentlemen. In my introductory remarks I asked the lecturer to be good enough to try and define the term transportation. I am afraid I did that entirely out of sheer laziness, because I was told it was my duty as Chairman not only to invite discussion but to see that whatever speeches were made were relevant to the subject. I therefore thought I would like to know what the boundaries of the subject were so that I should not have much trouble. The lecturer in his final remarks said there were no boundaries to the subject, but nevertheless I hope that those who take part in the discussion will not cover too wide a ground but will confine their remarks to the points made by the lecturer.

LIEUT.-COL. H. OSBORNE MANCE, C.B., C.M.G., D.S.O., R.E.: Mr. Chairman, Ladies and Gentlemen.—As regards the scope of the discussion perhaps it is just as well that the Chairman has limited us a little in the range of our remarks, because the lecturer might possibly reply to the Chairman's query as to what is transportation by quoting Kipling, who said that "Transportation is civilization." I think we should all congratulate the lecturer on his very valuable paper. It has been of particular interest to me because for a great length of time I was looking upon the subject from the back end of it, while Colonel Taylor has given us his impressions from the front end of it. It was particularly interesting to me to hear how he developed the subject of transportation in France, in a very accurate manner, but looking at the question always from a slightly different point of view from that of the people at the War Office or at Headquarters. I can add nothing to the substance of the lecture, which I think is a very complete one, but I should like to be able to supplement it with a little information from the other end. Colonel Taylor referred to the lack of senior railway traffic officers in France at the beginning of the War. It must be remembered, however, that it was absolutely and explicitly stated in writing by the French military staff—it is no longer a secret—that the French would be entirely responsible for everything to do with railways connected with the British Army. On the strength of that it had been suggested by our General Staff to cut out the three senior officers of our very modest railway establishment, namely, the Director, the Deputy-Director and the Assistant Director, which is the Staff to which the lecturer refers as not having gone out at the beginning. But the Quartermaster-General put his foot down and said: "You must send one man out there, if only to ask for the others; because he will very soon find it necessary to do so." The then Quartermaster-General, Sir John Cowans, clearly foresaw that there would be demands made on us very quickly, so that as soon as mobilization was ordered he mobilized the Director and Deputy-Director of Railways, and instead of sending them to France

he sent one to organize railway troops and the other to organize railway stores; and I think it was largely due to that foresight that we were able to keep going in the comfortable way referred to by the lecturer during 1915. We were always able just to keep ahead of requirements, and it was only when the great and unexpected demands from the French came in 1916 that these measures failed to meet the case. In December, 1914, when the Director of Railways, who also ran the Inland Waterways at that time, was transferred to General Headquarters, there was a considerable improvement. But the great disadvantage we suffered from until Sir Eric Geddes came was that the ports continued under the Inspector-General of Communications, and, more than that, these ports were not run by technical people. However good the railwaymen and inland water men were, there were no technical men out there to run the ports. It was considered that they could be run by purely staff work in the Army. That was a very grave mistake, and the lecturer would be the first to admit it. It was not cured until Sir Eric Geddes' organization came and took over the ports as well as the waterways, railways, roads and light railways. In 1916, when Sir Eric Geddes went out to France I had the good luck to go with him. As the lecturer said it was right in the middle of the Somme offensive in 1916. Colonel Taylor has referred to the fact that at that time the railways and the ports showed signs of cracking, chiefly due to the lack of practical control. One point that Colonel Taylor did not allude to, to which I might draw your particular attention, is that the immediate reason why we could not carry on the 1916 offensive, in so far as transport was concerned, was the lack of roads. Colonel Taylor alluded to it later on but not in connection with this particular period. During this offensive, when the weather was fine the horse transport was able to go along the more or less open ground on the side of the roads, and with the horse transport going along the side and the mechanical transport going along the road they just managed to carry on. But as soon as wet weather came, the operations were practically stopped, because everything immediately had to go on to the roads, and the roads could not take all the necessary traffic. There were not enough of them; they did not hold good and they could not be maintained near enough up to the front. That was the main fact that led to the introduction of light railways, simply to take the traffic off the roads. To give you some indication of the traffic that had to come forward at the time, I will quote some figures from memory, but I think they are approximately accurate. It was found that during an offensive the quantity of stores which arrived at railhead and had to be moved forward was 2,200 tons a day per mile of offensive front. Of that I might mention that about 1,500 tons consisted of ammunition, 400 tons of road material for maintaining the roads, and the other 300 tons consisted of stores and rations. That gives you some idea of the magnitude of the problems to be solved and why the railways were strained. In the new technical organization which coordinated all the existing forms of transportation—it was a great pity that it was not done earlier—one of the principal changes made was that each branch was manned by specialists. For example, before that time the roads in the British Army were run under the control of the Chief Engineers. The men composing the working parties came from the Army or were German prisoners, or anybody that could be got hold of. As a result the work that those men did was insignificant compared with the work that the same number of skilled road personnel could do. One of the great features of the reorganization which was carried out by that very eminent road engineer, General Maybury, was that he ransacked England and took away all the skilled men and rollers and everything else connected with the roads and quarries that he could lay his hands on. Having been on the Road Board he knew where to go for them in England, and that is the reason why, towards the

end of the War, our roads in England began to suffer. But he saved the road situation in France. Colonel Taylor has paid a tribute to the wonderful roads that existed there after we took charge of them, and I myself have always been most impressed by that part of the organization. There is one other point that I should like to say a few words upon, and that is the canals. One very important use of the canals which was not mentioned by the lecturer was the part they played in helping to save the ports. The use of a port is measured, generally speaking, by the work done at the quays, in fact our efficiency figures were expressed in tons per hour per yard of quay. If you can load off the other side into barges, which can then go to a depot inland, you will readily appreciate how much you can help the ports in that way.

MAJOR-GENERAL W. H. ANDERSON, C.B. (Staff College): I should like, if I may, to ask a question with the object of eliciting some information as regards the future. I think many of us have had brought back to our minds the problems we had to deal with during the War through the very realistic way in which the subject of transportation has been described to us by the lecturer. I think the memory that comes back more than anything to those of us who remember the conditions in France at the end of 1916 is that old bit of road between Fricourt and Mametz. That road was occupied by a stream of traffic day and night. The road never had a bottom to it before the War, and as the lorries went along the road in an endless stream, parties of men threw some stones down between each lorry as they came along. Those who remember that will certainly appreciate the importance of transportation. As regards the future, I think we should like to get some help from the Quartermaster-General and from the lecturer with regard to what is likely to happen. Having in view the great difficulty of taking a broad gauge railway forward on account of its being seen from the air by day and night, and the possibility of bombing; having also in view the difficulty of using light railways, except for purely static operations, for the same reason; having also in view the increased effect of bombing by day and night from the air on main roads occupied by transport, I should like to know if there is any airman who will give us his ideas as regards the bombing of transport in the future. I should like him to express an opinion as to how far we shall be able to get our broad gauge up in future to a point from which presumably the cross country tractors are to branch off. The prospect of cross country tractors going across country in every direction at night without lights is not a pleasant one or one which the Quartermaster-General will look at favourably. I should like to know what the views of officers are with regard to the future, particularly on these questions.

PAYMASTER LIEUT.-COMMANDER H. B. TUFFILL, R.N.R.: When I heard of this lecture on "Land Transportation in the War," I thought the lecturer would probably start off by saying that in operations of war there are three armies—the Army of Production, the Army of Transport, and the Army in the Field. Perhaps the wish was father to the thought, because it was with the second of those three armies that I was interested, having been closely associated during the greater part of the War with the organization of the Ports. I had the honour to serve on the Committee which was charged to maintain the flow of traffic through the Ports (of England), and when the lecturer concluded his interesting discourse, saying that he was not able to tell us what he had intended to say with regard to Ports, I must confess to a feeling of disappointment. Nevertheless, I would thank him, if I may, for what he has told us. Many were our troubles, caused by factors arising elsewhere than in the immediate sphere of the Ports. If I may say so, in view of what we in Whitehall could see of the working and the troubles

that were arising out on his side, I can only express surprise that the lecturer took all so well. In the Ports of the United Kingdom we were meeting not only the requirements of the several Armies in the Field, in so far as their transit through the ports was affected, but endeavouring to meet all those of the various Departments of State, not the least of which was the discharge and storage of Prize Cargoes, and, later, the immense quantities of food stuffs imported by the Ministry of Food, etc., it being found that the bulk of the available storage space of the country existed in the ports, indeed Cold Storage was scarcely to be found except in port areas. Huge stocks of timber also accumulated in the ports, occupying almost every piece of open ground that could be found, thereby hampering the free movement of many commodities. The import of all the raw materials required for the manufacture and preparation of the immensely varied articles that were needed for the prosecution of war, and the feeding of the population of England and the Armies in the Field each necessitated most careful and economic usage of port facilities, so that our problems in the home ports were very great, and we saw that to a great extent all these problems were arising and proving equally troublesome to those in charge on the other side of the Channel. The lecturer mentioned the question of congestion at the ports. Our experience was that a ship can always discharge on to the quay at least twice, and probably five times more quickly than the quay itself can be cleared; and similarly the quay can be cleared three times, and even five times more quickly than the shed can be cleared. Hence we endeavour to use the utmost persuasion to keep the transit sheds cleared in order to deal with the immediate requirements for cargoes urgently needed. This point of quicker discharge of the ship, etc., means that the facilities for removing the goods on the near or receiving side must be altered and broadened out. The goods have to go through a "bottle-neck," and experience showed us that rail and road transport was to a great extent failing under the strain of war. We were also faced with the railway problem of the severe lack of railway trucks in the ports. Our Committee endeavoured, with the Railway Executive Committee, to effect measures to meet that difficult position. The pooling of railway trucks was the first thing suggested, and after considerable difficulty, that was arranged for. But all the time we were losing our trucks because the army in France needed them equally, or perhaps more than we did, but it made our problems the more heavy. One point that the first speaker mentioned was the off-loading from a ship into lighter and barge. If I may add my testimony in connection with that subject, that is a very valuable factor in the clearance of a ship and the clearance of urgent goods previously referred to, particularly if a special Transit Quay be maintained for the handling of such urgent goods ex lighter, and thus avoid their going through the quays and sheds used for less urgent goods. With these few remarks, I would like to add that if any opportunity arises to go further into this great question of Transport, I hope the question of labour will be dealt with.

MAJOR-GENERAL SIR GERALD ELLISON. K.C.M.G., C.B.: I desire to say only a very few words. What we have heard to-day has dealt almost entirely with the important operations in France. Operations on that scale are exceptional; they are not what you might call normal so far as we are concerned. Personally I was concerned with operations which I think were much more normal for us, namely, those connected with Gallipoli. I was Deputy Quartermaster-General to Sir Ian Hamilton in Gallipoli, and I saw the conditions that existed there. There the whole problem of transportation, or whatever else we call it, was absolutely and entirely different from what it was in France. There was hardly any connection between the two. The whole problem there was one of sea transport, and

it was extraordinarily interesting and difficult. Colonel Mance mentioned that the port was the weakest link in the chain. We had no ports, at any rate in the sense in which there were ports in France. We had only that great Mudros Bay, but no piers, no jetties, no store houses, nothing at all; simply ships coming in with their contents which had to be got somehow to the front. The stores had to be changed from one ship to another; they had to be transferred from the big ships into small ships because the big ships could not go up to the Peninsula. From Mudros onwards our means of transport were small ships, somewhat limited in number. It was a prodigious problem, and I do not suppose any system in the world would ever have made it an easy problem or have made the transportation perfect. We experienced at that time many of the same things that we read about in connection with the Crimea. Boots when wanted were at the bottom of the ship, and all the same things happened again—I do not say to the same extent, but they did happen. They will happen under any system that can possibly be devised. This question of sea transportation is one of the great problems, perhaps the greatest problem, that has to be dealt with under our normal conditions. I only want to mention one or two of the factors that appear to me to be of great importance. One of the factors was exactly the same as occurred in France and elsewhere, namely, the absolute necessity for one control in all matters of transportation, whatever they may be—big ships, small ships, railways, canals and roads, and especially docks. You will never get intelligent use of transportation in any shape or form unless there is someone looking forward and having in some degree control over every form of transportation. We tried divided control in matters of organization. We had divided control between the Quartermaster-General, who was the man at the front, and the Inspector-General of Communications, and practically in every campaign during the late War that system had to be abandoned. Ultimately the control over administration came to be vested in one head, and that is the first thing we get to. It is absolutely essential to have one head of administration—it does not matter what you call him (we now call him Quartermaster-General). That one head of administration must, if he is intelligently to use transportation of all sorts, be in close touch with the Commander-in-Chief and with the Chief of the General Staff, who is all the time attending to operations and looking forward to what is going to happen. The Quartermaster-General must be in close touch with him, and if he is kept in close touch with operations he is in a position to frame his plans for the future. No human being will ever be able to make the organization perfect, but if such a system is carried out it gives a chance of making some sensible plan for co-ordination of all means of transport. I am perfectly certain that unless sea transport can be brought properly into a co-ordinated scheme of transportation you will never get the thing right on land. You begin in the home country with production, and thence onward there must be some well-thought-out plan, right on from the main bases in the home country, in despatching things overseas. You cannot have everything thrown in indiscriminately, as it was at Mudros, without adequate means of getting rid of the various stores. You must have the same sort of control over sea transport as we have on the railways in war. On the railways we now have regulating stations, and you must have some similar kind of scientific control over shipping at various stages. Such control must be exercised as one of the normal functions of the Quartermaster-General. Exactly how such control ought to be exercised I will not enter into now, but I am quite certain it is a factor connected with transportation which is of enormous importance.

COLONEL M. G. TAYLOR (in reply): Mr. Chairman and Gentlemen. Most of the speakers referred in their remarks to the question of ports. I said during the

course of my lecture that I had taken up so much time that it was impossible for me to deal with that question. I am very sorry indeed that it was necessary for me to omit any reference to that part of the subject, because the question of ports is, I know, most interesting to many of those who are present. My own view is that ports are an integral portion of the machinery; in fact, they are so much an integral portion that any variation of the port capacity will have a very serious effect on the ships on the one side and the railways on the other. All ports conjure up in one's mind visions of ships, adventurers, and all sorts of things, but I think one is apt to forget that the landward side of a port is just as important as its seaward side. While you can sum up a port, quite broadly, in its capacity of tons per hour per yard of berth, that is not the real capacity but only the paper capacity of a port. The real capacity is the tons per hour that can be passed completely through it at the other end. One of the speakers mentioned that it is easier to discharge from a ship to a wharf than it is from a wharf to a shed. Similarly it is easier to discharge from a wharf to a shed than it is to discharge from a shed to a railway truck, simply because all our ports are organized on those lines. Everybody has had their eye to the sea side. The opening of a new dock is a very great event, but is the addition of an extra line of railway to the port of equal importance in the public eye? Of course it is not. The truth is that an extra outlet to the port from its landward side would probably be a great deal more valuable than any number of extra berths. Most ports have too many berths and too few railways, and our ports in France suffered very much indeed from that defect. All the damage that occurs from month to month in the stores at the ports is purely a matter of the construction of the ports and nothing else. So much for ports. If we accept as a principle for working that clearance facilities should always be slightly greater than import facilities we should have an ideal port, and I am convinced that that must be the port of the future. General Anderson mentioned the Fricourt-Mametz road. There were many roads just as bad. Perhaps the worst road in France at any time from the beginning to the end of the War was the Albert-Bapaume road after the German retreat to the Hindenburg line in 1916. That was terrible. One sent out one's lorry drivers for a trip of nine miles out and nine miles back with thirty-six hours' rations on them, because you could never be sure that they would get back in less than that time. Modern intensive traffic on a road must be well organized. General Anderson also asked me a question, in connection with which the Quartermaster-General said that I might make a prophecy. I am not a prophet. I only wish I knew the answer to the question. It would simplify our army organization in the future if we could tell what the power of the air arm is going to be five or ten years hence. We suffered very much from bombing in France, even while we had command of the air. I do not know what it would have been like if we had not had command of the air. I only mentioned the Canche Bridge as an example. But, really, bombing, so far as we have experience of it, is of little effect because the damage caused is so quickly repaired. In France it did not happen as a rule in the daytime, and by the time the night had passed in which the damage had been done it was usually repaired. I would not like to hazard an opinion of any sort as to what may happen in the future. We must simply take the risk, and that is all one can say about it. With regard to General Ellison's remarks, he must bear in mind that I was asked to deal only with land transportation. I should have liked to deal with the sea side of the problem because I am very interested in it. General Ellison mentioned the Gallipoli campaign from the point of view of the sea side part of the problem. I said at the beginning of my lecture that I could not deal with anything but France, because the subject was too big a one to allow me to deal with any other field of operations. The

Gallipoli campaign is full of sea transportation lessons. I happened to be in charge of certain of the transport work at Mudros during its worst time, and my experience was certainly interesting. There was congestion of the very worst type ashore; the clearance facilities were always less than the incoming facilities for dealing with transports. I might almost say that every sin of transportation that could be committed was committed in that country. I would like to have dealt with that matter, but I do not think you would have sufficient patience with me if I endeavoured to do so.

THE CHAIRMAN (SIR T. E. CLARKE, K.C.B., K.C.M.G., Q.M.G. to the Forces): Ladies and Gentlemen. I believe it is the province of the Chairman to sum up the points of the discussion. Colonel Mance said that transportation was civilization. If that is the case I am perfectly certain that you will not desire me to make any attempt to sum up such a subject, because I could not possibly sum up the subject of civilization! However, I will deal with a few aspects of the problem. The Commandant of the Staff College, General Anderson, endeavoured to draw a prophecy from the lecturer and from me of what is going to happen in the future. It is always a dangerous thing to prophesy because you are nearly always wrong. I had very much hoped that the distinguished Air Commodore who was present at the commencement of the meeting, Air Commodore Brooke-Popham, would have taken part in the discussion and given us the benefit of his views on the subject, but unfortunately he has gone. Personally, however, I do not believe that, until a very great development is made in the power of air bombing, it will affect the general principle of pushing the standard gauge railhead as far forward as you possibly can. Only the normal (if I can describe it as such) fluctuations of war in regard to the forward line should be taken into account when fixing that particular railhead. I cannot give any further definition of how far forward it ought to go, but it should go so far forward that there will be only the shortest possible run from the railhead to the troop areas. I was glad to hear the lecturer mention that bombing will not hinder the advance of the railway line. What the future is going to disclose in regard to aircraft I had hoped that Air Commodore Brooke-Popham would have told us. Whether the Air Ministry will provide us with an air cargo boat I do not know. If they do, then these horrible difficulties that Colonel Taylor has presented to you of tons and tons of road metal for the roads will disappear to a large extent. I do not want to say much about the question of ports, because I rather led the lecturer to believe that as the lecture was on land transportation in war, the port side of the question should be cut out as the hour was getting late. I agree with the representative of the Navy, who has spoken to-day, with regard to the necessity of keeping the port areas clear of stores; that is to say, the dock warehouses should be used as transit warehouses and not as warehouses for storage. The lecturer and I are fully in accord on that point. But I would like to point out that there are other factors which must be taken into consideration. It seems very simple to write an order to the effect that stores are not to be kept in a certain definite port area; General Ellison pointed out how very essential it is that all methods of transportation shall be co-ordinated, and he illustrated his meaning by referring to sea transportation. So long as you have so many interests involved in the same particular series of movements so long will you have difficulty in getting complete co-ordination. One of the speakers said that ports can be filled up quicker than the goods can be taken away from the ports. That is perfectly true, and Colonel Taylor also agrees that it is correct. I had a lot of experience in connection with the matter in two theatres of war, and I desire to point out that so long as the ships are run by one set of people, the railways

by another and the ports by another you will have these difficulties, because although those various people do turn the machine they do not turn it as easily as might otherwise be the case. One of the points that was impressed upon me as Quartermaster-General in France was the necessity of getting a quick turn round for the ships. I asked: "What are the ships going to France for?" and was told "With stores for the troops there." I replied: "Then it is my duty to get the stores to the places at which they are wanted. You say that the chief element in that is to get the stores out on the dockside or put them into a barge, or get rid of them somehow, so that the ships may turn round quickly. Very well, if this is the main object it must be carried out, but the stores may not get to the troops." It is not business simply to throw the stuff out on the quays in order to turn your ships round quickly. There is no place in which to put the stores; loss and speculation is rife. Although one set of interests, the shipping side, is satisfied and happy because you have got the ship there and turned it round quickly, we are not so happy on the land side. Therefore, before you can lay it down as a principle that the ports and the port areas must not be filled up with goods, you must see whether the principle can be carried out. Undoubtedly experience in many theatres during the late war proved that the necessary co-ordination was not attained, and I am doubtful whether it is ever likely to be attained under the existing system. It seems to me that if you say that goods are not to be brought into a theatre of war at a speed quicker than you can get them away from the port area you have probably done a great deal towards finding a solution, but in a large number of cases in the late war ships had to come into the ports in large numbers because they were in convoys, and it was necessary to clear them as soon as possible. There are so many factors that it is very difficult to arrive at a practicable solution, but the whole question is so important that it should be subjected to the closest inquiry and investigation. I think from the discussion that has taken place we may establish one rule, namely, that if you are going to get the greatest efficiency out of all your methods of movement or your methods of transportation you must have efficient and effective co-ordinated control, not only generally, but from the point of origin to the areas of distribution. I could elaborate that principle, but I think the words I have used explained what I am driving at, and in addition the lecture has made the point fairly clear. There is one point which I should like to mention, which is really a corollary of what I said about ports, namely, that the forwarding of traffic should be controlled from the destination end, so that delivery will be in accordance with the relative requirements of the situation. There is also one other point to which I should like to refer. I think these discussions very often become obscured by too much weight being attached to the periods of static warfare. The greater portion of the War in France was what you might call reasonably stationary. In the earlier stages of 1914 that condition of affairs did not exist, and in 1918 we made very rapid advances. I think we rather obscure the lessons of 1914 and 1918, owing to the shorter period of the operations then, by the experience we gained in the intervening years. I would like to utter a note of warning in that connection. We must not obscure the main issue. I would have liked the Commandant of the Staff College to prophesy what form the next large war will take. I will not venture to do so, although he asked me to express an opinion on the subject. I think the lecture has been most extraordinarily interesting, and I would like to see Colonel Taylor at some future time take up the subject, which I know he has a great deal at heart, of ports and sea-going traffic. Whether he will do so I think it is for the Council of the Institution to ascertain, but I am quite sure that if he were able to deal with the subject it would prove of extreme interest to us. I will not detain you any longer, although it would be possible to make

remarks of an almost indefinite length on this subject. The lecturer has devoted a great deal of time and thought to the lecture he has prepared, and I am quite certain I am voicing your opinion when I ask him to accept a very hearty vote of thanks for the lecture he has been good enough to deliver to us this afternoon.

The resolution of thanks was carried by acclamation.

MAJOR-GENERAL W. H. ANDERSON: I have been asked to propose a hearty vote of thanks to the Quartermaster-General for his kindness in presiding over the meeting this afternoon. I am sure we are all disappointed that there are so few serving soldiers here, not only to hear this lecture on a subject which is of vital importance, but also to listen to the Quartermaster-General, who has given up so much of his valuable time in order to preside on this occasion. It affords me the greatest possible pleasure to move a vote of thanks to him.

The resolution of thanks was carried by acclamation, and the meeting terminated.



NAVAL NOTES.

GREAT BRITAIN.

FLEET CRUISES.

During the period covered by the following Notes, from 1st July to 30th September, cruises were made by most of the fully-manned Fleets and Squadrons of the Royal Navy, this being usually the busiest period of each year from the point of view of sea cruising and fleet training. In view of the urgent need for economy, however, the programmes adopted by the various Commanders-in-Chief and Senior Naval Officers were more modest than in past years, and there was no test mobilization of the Reserve Fleet, as in 1920.

The Atlantic Fleet dispersed from Portland for its home ports on 27th July, to give midsummer leave to officers and men. This concluded, the Fleet left for Scottish waters under the command of Admiral Sir Charles Madden early in September, and most of the squadrons of the Fleet were to be off Cromarty, Rosyth, or Scapa until the end of November. No visits to seaside resorts were made during the passage north, as during the two previous years.

From the First Light Cruiser Squadron, under Rear-Admiral Sir Charles Fergusson, the "Dauntless" was detached and left Devonport on 7th September for New York, conveying the bodies of the American naval airmen killed in the disaster to the airship "R38." The "Delhi," from the same squadron, proceeded to Heligoland on 30th September to evacuate the personnel of the Sub-Commission which had been supervising the work of dismantling the fortifications in accordance with the Peace Treaty.

The Second Light Cruiser Squadron, under Rear-Admiral Wilmot S. Nicholson, in which the "Curacoa" had become flagship in place of the "Caledon," which reverted to a private ship in place of the "Cleopatra" (reduced to the Nore Reserve), left on 1st September for a Baltic cruise, which was to last until 15th October. It visited Brunsbüttel, Danzig, Memel, Libau, Riga, Reval, Helsingfors, Stockholm, Copenhagen, Gothenburg, and Christiania, the crews being well received at the various ports.

In September, the First Destroyer Flotilla, under Captain A. K. Betty, in the "Wallace," accompanied by the "Coventry," flagship of Rear-Admiral Michael Hodges, made visits to Dutch ports. The "Coventry" and the Second Division of the Flotilla were at Rotterdam from 5th to 10th September, where entertainments, including football matches, were arranged for the British officers and men. The "Coventry" and the First Division of the Flotilla then visited Amsterdam from 10th to 14th September, the Second Division, under Commander V. L. A. Campbell, at the same time visiting Ymuiden. Queen Wilhelmina received Rear-Admiral Hodges at the Palace of Het Loo on 12th September. The British officers were also entertained at Amsterdam by the officers of the Dutch Navy, speeches being made by Vice-Admiral Soutendam and by Rear-Admiral Hodges.

The Nore Local Defence Flotilla, under Commander Clement R. Dane, in the "Tempest," made a cruise to Harwich and Yarmouth from 7th to 19th September. The vessels which began the exercises were the "Tempest," "Redoubt," "Starfish," "Thisbe," and "Thruster." The "Thisbe" left the Flotilla on 12th September to return to Sheerness, and the "Sarpedon" joined in her place on 14th September.

The "Harebell," parent ship of the Auxiliary Patrols, commanded by Captain Tufton Beamish, made a cruise to some fifteen ports in the North Sea and in Iceland from 1st July to 6th September. On her return to Portland, Captain Beamish was succeeded as Captain (A/P) by Captain Henry Aylmer. A cruise up the west coast, with visits to Queenstown, Kingstown, Fleetwood, St. Ives and Falmouth, was arranged for the "Harebell" from 10th to 24th October.

In the Mediterranean, a large proportion of the British men-of-war were at Constantinople during the quarter. At one time the battleships with three-fifths' complements, the "Centurion" and "Emperor of India," also proceeded there owing to the situation in Turkey. Rear-Admiral Sir Reginald Tyrwhitt, with the Third Light Cruiser Squadron, began a cruise to the Levant at the end of June, and visited Suda Bay, Crete, on the 26th. From 5th to 15th July, he was at Alexandria, and afterwards visited Jaffa, Rhodes, Makri, Smyrna, and Gallipoli, arriving at Constantinople on 7th August.

The Naval Flotilla on the Danube, composed of the river gunboats "Glow-worm" and "Ladybird" and motor launch No. 196, commanded by Captain A. L. Snagge, left Rustchuk on 10th July for a cruise up as far as Vienna, where it arrived on 5th August for a week's stay. Returning, the Flotilla called at Orsova and Lampalauka, and arrived at Rustchuk on 7th September, afterwards proceeding to Galatz.

The Gibraltar Local Defence Flotilla, under Commander R. V. Holt, in the "Rowena," the other vessels being the "Romola," "Restless" and "Rigorous," left Gibraltar on 1st September for its summer exercise cruise, and visited Cadiz, Huelva, Lisbon, and Oporto, returning to its base on the 23rd.

On the North American Station, the new flagship "Raleigh" arrived at Bermuda on 11th August and hoisted the flag of Vice-Admiral Sir William Pakenham. On the 29th, the Squadron left for a seven-weeks' cruise to Canadian ports. It was at Montreal from 6th to 16th September, Quebec from the 16th to the 26th, at Newfoundland ports up to 5th October, and from the 5th to the 12th at Halifax. In the St. Lawrence the ships met the Canadian Naval Squadron, consisting of the "Aurora," "Patriot," and "Patrician," and thus with the four cruisers of the Imperial Navy—the "Raleigh" being accompanied by the "Calcutta," "Constance," and "Cambrian"—there was a larger gathering of British men-of-war than had been seen in Canada in peace time for many years.

The light cruiser "Chatham," presented to the New Zealand Government last year, left Auckland on 16th July for a two months' cruise, her programme including the following visits: Suva, 22nd-28th July; Vavau, 30th July-2nd August; Apia, 4th-8th August; Pango Pango, 9th-13th August; Papeete, 20th-27th August; Raratonga, 30th August; Niue, 2nd September; Tongatabu, 4th-6th September; and Suva, 8th September. The vessel eventually left Suva for Auckland on 26th September.

On the Africa Station, independent cruises were made by the light cruisers "Lowestoft" and "Dublin." The latter began a two months' cruise on 20th September, when she left Simonstown for St. Helena, Ascension, Bathurst, Sierra Leone, Monrovia, and Mossamedes. While on passage from Simonstown to St. Helena, the "Dublin" went to the assistance of the British steamer "Port Augusta," which reported a serious fire in her bunkers and hold. The sloop "Wallflower," one of the two sloops allotted to the Africa Station soon after the armistice, left Sheerness on 21st September for Simonstown, and was due to call at Portsmouth, Gibraltar, Las Palmas, Sierra Leone, Lagos and Walfish Bay on the voyage out.

THE KING'S VISITS.

On his visit to Belfast on 22nd June for the purpose of opening the first Parliament of Northern Ireland, the King, who was accompanied by the Queen, travelled from Holyhead in the royal yacht "Victoria and Albert," and was received on his arrival in Belfast Lough by the battleships "Revenge" (flagship of Rear-Admiral Sir Rudolf Bentinck), and "Ramillies," the light cruisers "Cleopatra" and "Carysfort," and the Second Destroyer Flotilla. In his speech to the Ulster Parliament the King said, "My memories of the Irish people date back to the time when I spent many happy days in Ireland as a midshipman."

On 4th July the King and Queen were visited in London by the King and Queen of the Belgians, who crossed from Ostend to Dover in the royal yacht "Alexandra," Captain Basil Brooke, having on board Rear-Admiral the Hon. Sir Hubert Brand, Commanding His Majesty's Yachts. The "Alexandra" was escorted by the "Wallace," "Versatile," and "Vortigern," destroyers, of the First Flotilla, and the same vessels escorted the yacht on the return journey to Ostend on 8th July.

On 8th July, the King and Queen embarked at Westminster Pier and travelled by water to open the new King George V. extension of the Royal Albert Dock. Their Majesties proceeded from Westminster in the steamship "Wargrave" to below London Bridge, where the yacht "Rover," painted white, with the White Ensign and the Royal Yacht Squadron burgee flying at the main, was moored. The King and Queen boarded her, the Royal Standard being broken at the main, and a salute was fired from the Tower guns. The pierheads, when the "Rover" arrived at the new extension, were found to be lined by seamen from H.M.S. "Pembroke," and the lock sides by boys from the Royal Hospital School, Greenwich, the "Warspite," the "Arethusa," and the "Exmouth." The "Rover" was the first vessel to enter the new dock, by breaking a white ribbon stretched across the entrance.

On the evening of 9th July, their Majesties left London for Portsmouth and embarked in the "Victoria and Albert," which left at 9 o'clock next morning for St. Peter Port, Guernsey, arriving the same afternoon. The yacht was accompanied by the small yacht "Alexandra," and by the light cruiser "Cleopatra" and the destroyers "Watchman" and "Wryneck." On 12th July, their Majesties proceeded in the "Victoria and Albert" to Jersey, and left on the 13th for Portsmouth, escorted by the light cruiser and two destroyers mentioned. After disembarking their Majesties, the "Victoria and Albert," "Cleopatra" and "Watchman" left for Southend, as did also the destroyer "Ready," escorting the King's racing yacht "Britannia." On board the last-named, the King took part in the races at Southend on 15th July.

The Prince of Wales on 27th July unveiled the monument to the Dover Patrol at Leathercote's Point, on the east side of St. Margaret's Bay. Raised by public subscription, the obelisk is 84 ft. high, and is built of granite. A corresponding obelisk has been erected on the opposite side of the English Channel at Cape Blanc Nez. The light cruisers "Delhi," Captain F. L. Tottenham, C.B.E., and "Dunedin," Captain H. S. Monroe, D.S.O., represented the Navy at the unveiling ceremony.

The Duke of York, on 12th July, opened the new King George's Sanatorium for Sailors at Bramshott, near Liphook, Hampshire. The Sanatorium has been erected by public subscription, organized on behalf of the Seamen's Hospital Society by Lord Inchcape. The £100,000 needed for the purpose was raised, with something over, before the opening ceremony. This is the first sanatorium erected exclusively for seamen.

NAVY ESTIMATES.

Vote 8 of the Navy Estimates, for shipbuilding, repairs, maintenance, etc., was discussed in the House of Commons on 3rd August, when the Parliamentary Secretary of the Admiralty, Mr. Amery, announced that the four capital ships which are to be laid down will be battle-cruisers of the "Hood" type, but with improvements in the matter of protection and armament which will embody the experience of the War and enable them to hold their own with any vessels of their class in other navies. In view of the fact that all American and Japanese capital ships laid down since the "Hood" are being equipped with 16-in guns, we have been obliged to follow their example, said the Secretary, and our new ships will, therefore be armed with 16-in. and not with 15-in. guns. As regards protection against torpedo explosion, Mr. Amery said that every suggestion, from whatever source, had been carefully considered before the present design was adopted, and the Admiralty were satisfied that they had secured a form of under-water protection which, as far as possible, will meet all contingencies. The Secretary added that the dimensions of the new ships—and this was the cardinal principle of their design—would be such as to keep within a limit which would obviate the necessity of larger docking or other accommodation being provided for them other than that already existing. The general cost of the ships would depend on the tenders received, and he could not give even an approximate estimate. He hoped they would not cost more than the "Hood." It depended on future prices. They would all have the bulge protection which proved such a success in practice against torpedo attack. The question of battleships as against submarines and aircraft had been continuously under the review of the Admiralty and their experts, and nothing had emerged from any of their investigations to change the broad general and universally accepted conclusions that the capital ship is still the basis on which sea power must rest. The submarine and aeroplane had not yet reached points of development such as to render surface ships out of date. The building slips of the Government Dockyards were incapable of taking ships of the size of the "Hood," so these ships had all to be put out to private tender. There were six private slips available. The Royal Dockyards would be brought up to date when the financial situation allowed of it. Mr. Amery also announced in his speech that Pembroke Dockyard, which it was proposed to close down, would be kept open at a reduced strength of about 1,200 men. The present number is 2,200. On this basis, the yard could always have two smaller vessels in hand, and at the same time find room on the existing site for the oil fuel depot already approved to be provided in the neighbourhood.

NAVAL COMMANDS AND APPOINTMENTS.

On Monday, 22nd August, it was announced that the King had been pleased, on the recommendation of the First Lord of the Admiralty, to approve the promotion, as a special case, of Admiral the Marquess of Milford Haven, P.C., G.C.B., G.C.V.O., K.C.M.G., to the rank of Admiral of the Fleet on the Retired List, in recognition of his exceptional services as First Sea Lord, both before and after the outbreak of the late War, to date 4th August, 1921. Three weeks later, on 11th September, the Marquess died suddenly at his chambers, 42, Half Moon Street, from heart failure, following influenza, at the age of 67. He had been on a visit to Scotland, and had only returned to London on the previous day. The funeral took place with full naval honours on 19th September, when the body was conveyed from the Chapel Royal, St. James's, to Westminster Abbey on a gun-carriage, the pall bearers being Admirals of the Fleet Sir Arthur Fanshawe, Sir William May, Lord Beatty, Sir Henry Jackson, Sir Cecil Burney, and Sir Doveton Sturdee,

Admiral Sir Francis Bridgeman, and Major-General Herbert Blumberg, Adjutant-General of the Royal Marines. After the service in the Abbey, the remains were conveyed by train to Portsmouth, where a bearer party of petty officers from the royal yacht "Victoria and Albert" carried them to the destroyer "Ready," for passage to Cowes. The interment took place in Whippingham Churchyard.

In the vacancy caused by the retirement of Sir Hedworth Meux, G.C.B., K.C.V.O., on reaching the age of 65, on 5th July, Admiral Sir Doveton Sturdee, Bart., G.C.B., K.C.M.G., C.V.O., LL.D., was promoted to the rank of Admiral of the Fleet. This gave a step in rank to Vice-Admiral Sir Edward Charlton, K.C.M.G., C.B., Rear-Admiral Sir Lionel Halsey, G.C.V.O., K.C.M.G., C.B., and Captain T. W. B. Kennedy, C.M.G., of whom the last-named retired at his own request on 6th July, and Captain C. D. Carpendale, C.B., was promoted to rear-admiral in his place.

In consequence of the appointment of Rear-Admiral Aubrey C. H. Smith, C.B., M.V.O., as head of the Naval Mission to Greece, it was officially notified that this officer would be regarded as a supernumerary rear-admiral, as from 27th September, under the provisions of the Order in Council of 14th October, 1913. In view of this, Captain Alexander P. Davidson, D.S.O., was promoted rear-admiral, to date 27th September. This officer retired voluntarily on the next day, which promoted Captain Harry M. K. Betty, who also retired at his own request on the 29th, whereby Captain F. Martin Leake, D.S.O., was promoted to rear-admiral on the same day.

There were fewer changes announced in the higher commands than last quarter. On 6th August, the appointment was announced of Rear-Admiral Aubrey Smith to be lent to the Greek Government as head of the British Naval Mission to Greece, to date 15th October, in succession to Captain W. A. Howard Kelly, C.B., C.M.G., M.V.O. On 12th September, the appointment was announced of Captain T. E. Wardle, D.S.O., as Chief of Staff to Rear-Admiral Smith. Rear-Admiral Edmond Hyde Parker, C.B., was on 6th August selected to be Rear-Admiral Commanding the Reserve Fleet at Portsmouth, in succession to Rear-Admiral Clement Greatorex, C.B., M.V.O., to date 1st October.

On 12th September, the appointment was published of Rear-Admiral Sir Allan Everett, K.C.M.G., K.C.V.O., C.B., to be First Naval Member of the Naval Board of the Commonwealth of Australia, in succession to Rear-Admiral Sir Edmund Percy Grant, K.C.V.O., C.B., who was appointed on 21st March, 1919.

On 15th September, the appointment was announced of Colonel-Second-Commandant Reginald H. Morgan, R.M.L.I., as Director of Naval Recruiting, in succession to Lieutenant-Colonel Picton Phillipps, C.M.G., M.V.O., R.M.A., to date 21st September. On the same date, Lieutenant-Colonel L. W. Miller was promoted to be Colonel-Second-Commandant of the Chatham Division.

NAVAL OCCURRENCES.

ASCENSION ISLAND.—On 1st July, the Admiralty ordered that in view of the climatic conditions obtaining at Ascension, where there is a Royal Marine garrison, and having regard to there being no dental facilities on the island and only a limited medical staff, care is to be taken that all ranks and ratings on draft for the island are dentally as well as medically fit, and that no necessity for dentures exists in any case. When application is made by an officer for the grant of free or assisted passage for his wife, children and female servant, a doctor's certificate must in each case be forwarded.

THE NAVY AT BISLEY.—On 4th July, Commander C. G. L. Woolcombe was appointed to the "Victory," additional, for special service at Bisley. At the Camp this year the ranges were, for the first time, staffed almost entirely by sailors.

MAINTENANCE COSTS.—In reply to a question, the Parliamentary Secretary of the Admiralty has given the following figures as the approximate annual cost of maintaining the latest type of warships in full commission in home waters:— Battleship "Royal Sovereign," as a private ship, £455,910; battle-cruiser "Hood," as a flagship, £617,410; light cruiser, "D" class, as a private ship, £170,600; torpedo-boat destroyer, "W" class, £54,645; submarine, "L" class, £28,245.

RESERVE OFFICERS IN SUBMARINES.—By an order of 8th July, the Admiralty opened service in the submarine branch to officers of the R.N.R. and R.N.V.R. Permission to specialize applies only to officers of the R.N.R. between 21 and 32 years of age, and those of the special branch and engineer branch of the R.N.V.R. No ratings of either Reserve are eligible.

DENTAL OFFICERS' PAY.—On 8th July, an increased scale of pay for dental officers in the Navy was announced, with retrospective effect to 1st January, 1921. The pay of surgeon-lieutenants (D) on entry was advanced from 21s. 6d. to 22s. a day, and after three years' service from 26s. 6d. to 27s. a day. A new rate of £2 a day for surgeon-lieutenant-commanders (D) after nine years' seniority was authorized, and also new rates for surgeon-commanders (D) of £2 2s. 6d. on promotion, £2 6s. after three years, and £2 10s. after six years.

WIRELESS STATIONS CLOSED.—On grounds of economy, the wireless stations of the Royal Navy at Bathurst (Gambia), Mauritius, Port Nolloth (Cape Colony), and the Seychelles were closed on 15th July. These stations were built during the war, but were not indispensable to the work of the Fleet in peace time. The station at Demerara is being retained for the present.

GREENWICH HOSPITAL ESTATES.—On 15th July, Mr. A. W. Smallwood, C.B.E., succeeded Mr. C. H. R. Stansfield, C.B., as Director of Greenwich Hospital. Mr. Stansfield had held office since August, 1903, and during that time had increased the income of the trust by about £45,000 a year, until it was nearly £250,000, about 90 per cent. of which sum is appropriated to benefits, in the shape of pensions and grants, to seamen and marines and their dependants.

ROYAL MARINES' PAY.—By an order of 15th July, the pay of gunners, R.M.A., and privates, R.M.L.I., was assimilated, and these ranks were ordered to be paid according to a new scale which was substantially the same as that previously in force for privates in the R.M.L.I.

DUNNING CUP AWARD.—On 16th July it was announced that the Dunning Cup, which was subscribed for by certain officers in order to commemorate the achievement of the late Squadron-Leader E. H. Dunning, D.S.C., of being the first officer to land an aeroplane successfully on the deck of a ship under way on 2nd August, 1917, has been awarded for 1920 to Flight-Lieutenant F. J. Linnell. The cup is given annually to the officer who is considered to have done most to further aviation in connection with the Fleet for the year in question. The first holder was Flight-Commander F. J. Rutland, D.S.C., A.M., in 1917.

DOCKYARD ECONOMIES.—The Director of Dockyards, Vice-Admiral Sir Laurence Power, visited the chief home dockyards during the quarter under review, and discussed with the principal officers their proposals for the next financial year. The Admiralty notified the Admirals-Superintendent, as well as the civilian heads of allied establishments, that there must be preparation for drastic cutting-down in 1922-23. The Board requested that a very rigid pruning of all proposals may be made prior to the Director's visit, so that only the items of

undoubted urgency and of primary importance may remain. The Admiralty commented on past dockyard estimates, and added :—" The estimates for 1922-23 will have to be much lower than in 1921-22, in which year, taking the dockyards as a whole, the proposals forwarded corresponded to an estimated cost of over six times that of the sum finally approved by the Board."

THE WORLD'S NAVIES.—On 26th July, a White Paper (No. 164) was issued giving particulars of the fleets of Great Britain and the principal other maritime Powers. The return was issued at the request of Lieutenant-Colonel Burgoyne, M.P., and was in continuation of Parliamentary Paper No. 113, of Session 1914. It was in form similar to what used to be called for many years the Dilke Return, and which was first issued at the instance of the late Sir Charles Dilke.

PAYMASTER AS NAVAL ATTACHÉ.—It was officially announced in July that Paymaster Lieutenant-Commander Lloyd Hirst had been appointed Assistant Naval Attaché in South America, with headquarters at Buenos Aires in summer and Rio in winter. This was the first time that an officer of the accountant branch had been chosen for such a post.

ADMIRALTY EMPLOYEES.—On 6th July, Mr. Amery said in reply to a question, that the number of persons employed at the Admiralty outport establishments in July, 1914, was approximately 58,000. The present corresponding number is approximately 78,000. The numbers engaged at the Admiralty itself in July, 1914, and at the latest available date respectively were 2,072 and 5,259. The bill for salaries and wages for the outport establishments in July, 1914, was at the rate of £5,094,400 per annum, and at the present date the corresponding expenditure is at the rate of £15,204,448 per annum; the bill for salaries and wages for persons employed at the Admiralty in July, 1914, was at the rate of £514,356 per annum, and the corresponding expenditure at the latest available date was £1,899,132. The personnel of the Navy in July, 1914, numbered 146,047, and on the 15th May, the latest available date, it was 144,700, or 123,576, if the Reserves specially mobilized in that date are omitted.

THE "VICTORY."—On 13th July, Mr. Amery stated in Parliament that the Admiralty had no intention of breaking up H.M.S. "Victory." There was no foundation for the rumours that this historic ship was in immediate danger of sinking at her moorings through deterioration of the structure. At the same time her condition was engaging the careful consideration of the Admiralty, in order that all necessary steps might be taken to preserve her.

ROYAL MARINES IN EGYPT.—On 5th August, it was announced that for the future officers of the Royal Marines who remain seconded for service under the Egyptian Government for more than ten years will be placed on the retired list at the expiration of that period. Furthermore, the rule whereby officers of the Royal Marines have been allowed to count service in unhealthy districts as double time for purposes of retired pay or gratuity is abolished in the case of officers seconded for service under the Egyptian Government for the future, but will remain in force in the case of those at present serving.

DOMINION NAVIES.—On 12th August, it was stated in Admiralty Fleet Orders that the conditions of advancement for men lent to the Dominion Navies will be the same as in the Royal Navy. The revised conditions of advancement were made retrospective to 8th December, 1920.

NEW MINELAYER.—On 18th August, Mr. Amery stated in Parliament that the boilers for the minelayer which is to be built at Devonport are already available, also portions of the main machinery and the necessary auxiliary machinery. It

is the intention of the Admiralty to complete as much as possible of this work by yard labour at Devonport.

MOPLAH OUTBREAKS.—In connection with the disturbances among the Moplahs, the India Office announced on 25th August that the district magistrate at Calicut had reported the situation to be critical, and that the evacuation of the women and children to the barracks had taken place. He asked for a ship of war to be sent with supplies to Calicut as soon as possible. The Madras Government thereupon communicated with the Naval Commander-in-Chief at Colombo, and an intimation was received from him that H.M.S. "Comus" had left for Calicut, and that H.M.S. "Espiegle" would follow if required. The "Comus" arrived at Calicut on 25th August from Trincomalee, and next day news was received at the India Office that the situation was quiet. The "Comus" left again on 31st August for Colombo and Trincomalee.

EGERTON PRIZES.—On 26th August, the Admiralty announced that the Commander Egerton Memorial prizes for 1919 and 1920 had been awarded to Lieutenant-Commander Eustace Rotherham and Lieutenant Michael M. Denny. On 7th October, the award of the 1921 prize, to Lieutenant Cecil C. Hughes-Hallett, was announced.

PHOTOGRAPHY IN THE NAVY.—Captain L. S. Holbrook, M.V.O., R.N., was, on 26th August, appointed President of an Admiralty Committee to investigate various outstanding matters relating to cinema and photographic work in the Royal Navy. The Committee will also inquire into the question of retaining the existing "magic lantern" service, in charge of the Captain of the Royal Naval College at Greenwich.

HEALTH OF THE NAVY.—In order to ensure, as far as possible, a proper record of the state of health on the date of the "official termination" of the Great War, the Admiralty, on 26th August, ordered that all officers and men who served in the War and are remaining in the Naval Service were to be medically examined. Form M.13 was to be completed from the results of the examinations in respect of each officer and man.

"END OF THE WAR."—The temporary commissions of all demobilized officers who were granted commissions during the War for service in the R.N., R.M., R.N.R., or R.N.V.R., were regarded as terminated on 31st August, the statutory date fixed by Order in Council as the date of the termination of the Great War. All issues of pay, allowances, etc., authorized to be paid to ratings for the period of the War were ordered to cease on 31st August, by A.F.O. 2014 of 30th August, unless they had been permanently instituted since first authorized. Similar allowances, increased rates of pay, and other pecuniary benefits sanctioned for officers for the duration of the War only were ordered to cease by A.F.O. 2088, dated 9th September, with effect from 1st September inclusive. The Admiralty also notified to the Fleet that among the many statutes, etc., revoked by the official termination of the War at midnight on 31st August were the Defence of the Realm Acts and the regulations thereunder. Care was ordered to be taken not to enforce any orders which derived their sanction from "D.O.R.A." and regulations made under it.

MARINE OFFICERS' RETIREMENTS.—On 2nd September, revised regulations governing the grant of a step in rank to officers of the Royal Marines on or after retirement were announced, with effect from 1st February, 1919. Colonels-Second-Commandant were to be eligible for promotion to the rank of Major-General (retired) from the date on which they would have been promoted to Colonel-Commandant had they continued to serve, provided they had not been passed over for the command of a division.

SLOOPS FOR INDIA.—On 3rd September, it was announced that the sloop "Ceanothus" had been presented to the Government of India, which was also considering the purchase of another vessel of similar type, the "Lychnis." Both vessels were completed in the autumn of 1917.

NEW TRAINING ESTABLISHMENT.—On 6th September, Captain B. St. G. Collard, D.S.O., was appointed to the battleship "Colossus" to command that vessel and the "Collingwood" as boys' training ships at Portland. The "Colossus" was ordered to become an independent command, and the "Collingwood" to be her tender. Having embarked some hundreds of boys from the "Impregnable" training establishment at Devonport, the two vessels left that port on 11th October to take up their new work at Portland.

R.N.V.R. RETIREMENTS.—On 9th September the Admiralty defined the conditions under which service as a rating may count towards the service required to qualify an officer of the R.N.V.R. for retirement. Except in the case of accountant officers (C), officers must have completed fifteen years' service in the R.N.V.R. before being eligible for the retired list. For those who entered as ratings, a minimum of five years of this service must have been in commissioned rank, and they must have attained the rank of lieutenant. Time served whilst under the age of 18 will not count towards the fifteen years' service necessary to qualify for the retired list.

OGILVY MEDAL AWARDS.—The Ogilvy Medal for the year 1919 was awarded in September to Lieutenant Norman V. Grace, R.N. That for 1920 was granted to Lieutenant Henry D. Nichol, R.N.; and that for 1921 to Lieutenant Anthony F. de Salis, R.N.

SOUTH AFRICAN NAVAL SERVICE.—The Union of South Africa, which has hitherto contributed £85,000 per annum towards the general maintenance of the Royal Navy, is now to make a beginning with the provision of a naval service of her own. The Admiralty announced, on 9th September, that volunteers were required for service under the Union Government in connection with the mine-sweeping and surveying organization which is being set up. The numbers included, for service in the mine-sweeping trawlers, two petty officers (S.G.), two signalmen, two engine-room artificers, third class, and two stoker petty officers; and for service in the surveying sloop, one chief petty officer, one petty officer, one able seaman, one signalman, one chief and three engine-room artificers, one chief stoker, six stoker petty officers, and four leading stokers. Ratings will be required to sign an engagement for three years from the date their vessels are commissioned in England. The rates of pay are about 60 per cent. higher than those in the Royal Navy, and marriage allowance is also on a more liberal scale. For single men the rates are as follows:—C.P.O., 15s. 3d. a day; P.O., 12s. 9d.; A.B., 6s. 3d.; Chief E.R.A., second class, 20s. 3d.; chief stoker, 15s. 3d.; and leading stoker, 9s. 9d. These figures, however, include uniform and all other allowances. Free rations are issued to the rating only, but medical attendance and hospital attendance are free to all ranks and to wives and children. Rates vary according to the number of children up to four, but above that number no extra allowances are paid. Of ratings below petty officer, only 5 per cent. may be married; of petty officers, 50 per cent.; and of all other ratings, 100 per cent. The cost of passages to South Africa for the wives and children of ratings selected will be defrayed by the Union Government.

NEW SOUTH AFRICAN SHIPS.—The vessels chosen for transfer to the Union Government for service were the "Crozier," surveying ship, and the trawlers "Eden" and "Foyle" (formerly called the "Thomas Johns" and "John

Edmund"). The "Crozier" was in charge of a care and maintenance party at Devonport; the "Eden" and "Foyle" were in the Queenstown Flotilla.

WARDMASTER-LIEUTENANT.—On 14th September, the Admiralty announced the appointment of Wardmaster-Lieutenant T. Chappell to be Secretary to the Surgeon Rear-Admiral at the Royal Naval Hospital, Chatham. This was the first appointment of its kind. The grade of Wardmaster-Lieutenant, with the relative rank of lieutenant, was created by Order in Council of 10th August. Wardmasters became eligible for promotion on similar terms to the warrant officers in other branches of the Navy.

R.N.R. COMMITTEE.—Announced in September, the composition of the new R.N.R. Advisory Committee, formed in connection with the revised organization of this force in accordance with post-war needs, is as follows:—Vice-Admiral Sir Morgan Singer, Admiral Commanding Coastguard and Reserves (President); Captain C. J. C. Little, R.N., Director of the Trade Division, Admiralty; Mr. C. H. Jones, Registrar-General of Shipping and Seamen, representing the Board of Trade; Lieutenant-Commander Sir August Cayzer, R.N., representing the Chamber of Shipping; Mr. Cuthbert Laws, representing the Shipping Federation; Captains C. A. Bartlett, S. M. Day, and C. E. Irving, all of the R.N.R.; Chief Engineer W. J. Bruce, R.N.R.; and Paymaster Lieutenant-Commander H. B. Tuffill, R.N.R. The Secretary of the Committee is Paymaster-Lieutenant A. E. A. Eagar, R.N.

THE LAST COAL-FIRED SHIP.—With the reduction of the "Tiger" to reserve complement at Devonport on 22nd September there passed from the fully commissioned Fleet the last fighting vessel to be coal-fired. The "Tiger" was withdrawn on the "Renown" being again ready for sea, the latter, like all the other battleships, battle-cruisers, light cruisers, destroyers and submarines, being oil-fired.

THE GRAND FLEET FUND.—The central office of the Grand Fleet Fund, at 11, Lower Regent Street, London, was closed on 30th September and its work transferred to Chatham, on the ground of economy. The new address is Room "B," 90, High Street, Chatham. Under the new organization all cases for relief will be dealt with by committees at Chatham, Portsmouth and Devonport according to the port division of the applicant concerned.

FOREIGN NAVIES.

NAVAL ESTIMATES COMPARED.—On 1st August, in a written reply to a question in the House of Commons, Mr. Amery, the Parliamentary Secretary to the Admiralty, supplied the following figures of the Naval Estimates of the United States, Britain, France, and Japan for 1913-14 and 1920-21 respectively:—

—		United States	Britain.	France.	Japan.
		£	£	£	£
1913-14	...	29,180,900	48,809,300	21,292,400 (1913)	10,700,000
1920-21	...	134,468,717	90,872,300	16,619,909 (1920)	48,820,520

The 1913-14 figures are converted to sterling at par rate of exchange. Under the 1920-21 heading the amounts are converted to sterling at the average rates of

exchange during that period. A further Vote may still be added to the United States Estimates. Those of Britain and Japan include Supplementary Estimates. A further Vote of £2,490,742 has been asked for by the French Government.

FRANCE.

"THURINGEN" SHELLED.—Early in September, the ex-German battleship "Thuringen" was used as a target ship by the French Fleet off Lorient, and was reported to have been reduced to a heap of scrap iron. Arrangements had been made to keep the vessel afloat so that her armour plates might be removed for a minute examination of the penetrating power of the shells used in the test.

HAVRE FÊTE.—From 22nd to 27th July a grand maritime fête of the French naval forces under Admiral Salaun took place at Havre. The light cruiser "Dauntless," Captain G. O. Stephenson, C.M.G., and destroyer "Velox," Commander L. D'O. Bignell, represented the British Navy. Speaking at a luncheon in his honour on 25th July, M. Millerand urged the necessity of France maintaining an adequate navy. The President, accompanied by M. Guist'hau, Minister of Marine, later in the day reviewed the assembled ships.

DISPATCH VESSELS' VISITS.—During August, the dispatch vessels "Somme" and "Meuse" visited Dover, Cowes, Dartmouth, Torquay, and Plymouth in the course of a cruise. They belong to a class of gunboats or "avisos" built during the war and named after the French rivers so prominently connected with the fighting. They are of 640 tons, 4,000 horse-power, and a speed of 21 knots.

"U" BOATS DESTROYED.—During June and July the demolition of the remaining thirteen ex-German submarines in French hands was completed, at Toulon. Thirty of these boats were sent to this port, of which three foundered on the voyage from England, and three were used as targets. Eleven others have been repaired, renamed, and taken into the French naval establishment.

GERMANY.

MINE-SWEEPING FINISHED.—On 9th July, a semi-official statement issued in Berlin announced that mine-sweeping in the North Sea had ended, this area being clear of moored mines. Sweeping was, however, being vigorously carried on in the northern Baltic, and two half-flotillas were being sent to the Northern Arctic Ocean to remove the German minefield there.—On 2nd September, a Copenhagen message said that floating mines were still being found in Danish waters. During July, four were washed up on the west coast of Jutland and one on the island of Læsø, in the Kattegat. Up to 1st July, 9,902 mines had been destroyed by the Danish naval authorities.

NAVY ESTIMATES.—Estimates for the German Navy were debated in the Reichstag on 5th July. According to *The Times* Correspondent at Berlin, they tended to show that an organization capable of rapid expansion in case of war is being retained, as was attempted in the case of the Reichswehr. It was brought to light that the personnel of the naval administration, apart from the staffs at the naval bases and in the coast fortresses, numbers 1,300. As showing the kind of building in contemplation as naval headquarters one deputy brought out the fact that a million marks was estimated for heating alone. He also drew attention to the fact that for a navy of 13,000 there are to be 13 lawyers on the staff; and 91 naval surgeons are provided for.

GREECE.

NEW BRITISH ADVISER.—On 6th August, the Admiralty announced that Rear-Admiral Aubrey C. H. Smith, C.B., M.V.O., has been lent to the Greek Navy as head of the British Naval Mission to Greece, to date 15th October, 1921, in succession to Captain William A. H. Kelly, C.B., C.M.G., M.V.O., who had held the post since 1st June, 1919. Rear-Admiral Smith last served as Commodore on the South America and Pacific Station from 1916 to 1919.

ITALY.

MEN-OF-WAR MOVEMENTS.—On 18th July, it was announced that the battleship "Caio Duilio," which had been stationed off Adalia, had been ordered to the Bosphorus to join the naval forces there. The "Caio Duilio" was replaced at Adalia by the cruiser "Napoli."—The flagship in August of the representative of the Italian Navy at Constantinople, Rear-Admiral Galleoni, was the ex-Austrian cruiser "Saida," which had been repaired and re-armed since the armistice and renamed the "Venice."

JAPAN.

NEW SUBMARINES.—On 9th August, the New York correspondent of the Philadelphia *Public Ledger* reported "from an unimpeachable source" that the Japanese Government had ordered Diesel engines to the value of £1,250,000 for installation in giant submarines from Sulzer Bros., of Winterthur, Switzerland. The New York representative of the firm is quoted as saying that these engines are of about 4,000 horse power and that plans of the submarines, which he had seen, provided for the installation of several such engines, totalling 15-20,000 horse-power in each vessel. The engines, it is added, are more than twice as powerful as those recently ordered of the same firm for the United States Navy.

NETHERLANDS.

SUBMARINE'S VOYAGE.—In September, it was notified by the Admiralty that the Netherlands submarine "K.VI" would be returning to the Dutch East Indies this year, and would call, if necessary, at Falmouth during the first half of October; at Colombo and Mahe (Seychelles Islands) in the first half of December; and at Diego Garcia in the second half of December. Built during the War, "K.VI" is of 550 tons surface displacement and 800 submerged, with speeds of 14½ and 9½ knots respectively, and is armed with six torpedo tubes.

POLAND.

TORPEDO BOATS.—On 17th September, in Leith Roads, Firth of Forth, three of the ex-German torpedo boats which were allotted after disarmament to Poland for police duties in the waters off Danzig, were solemnly blessed by the Rev. Father Long. Admiral Kloczkowski and Commander Dryna, of the Polish Navy, attended the ceremony. The vessels afterwards left for Danzig.

RUSSIA.

RETURNED ICE-BREAKERS.—On 1st September, it was announced that the ice-breakers "Alexander" and "Sviatogor," taken over by the British Navy at Archangel, in 1918, had been given back to the Soviet Government. The ships were both built in England by Messrs. Armstrong Whitworth and Co., in 1917-18. If certain financial arrangements could be agreed to, the British Government were also prepared to surrender the Russian cruiser "Askold" and two destroyers, of which they have had charge since 1918.

PETROGRAD HARBOUR.—On 14th July, the Russian Trade Delegation issued from Moscow a message stating that an inspection of the port of Petrograd and entrance channel had been completed. The channel was quite safe and open for merchant ships drawing 27 feet. There is a lightship off Narva Bay fitted with wireless, at which station there are ten pilots ready to take ships to Kronstadt free of charge. All docks and ships' berths are clear and open to receive ships drawing from 24 to 26 feet.

SERBIA.

NEW DISPATCH BOAT.—In July, the French Ambassador at Belgrade notified the Yugo-Slav Government that the French Government had decided to present to Yugo-Slavia the "Vedette," and it was decided to rename the vessel the "Alexander." In reply to certain alarmist articles in the Italian Press, which expressed surprise that France should be "arming the foreign Adriatic Power facing Italy," the *Temps* pointed out that such comment was due to a misunderstanding. The "Vedette," far from being a battleship, is a small wooden motor-boat, with a crew of nine. It is a 70-ton vessel, 60 ft. long, of no military value. The "Vedette" had been on the Danube at Belgrade for two years, and the French authorities gave it to the Yugo-Slavs as a souvenir.

SPAIN.

SHIPS FOR MOROCCO.—A Madrid telegram, on 23rd July, stated that the Spanish Government had decided to send several men-of-war to Morocco, owing to the news of the rising among the Moors.

NEW SUBMARINE.—On 2nd June, a new Spanish-built submarine was launched at Cartagena. The vessel displaces 613 tons on the surface, has a speed of 16 knots on the surface and ten submerged, and carries four torpedo tubes and one 3-in. gun. She is the first of six ordered from the Constructora Naval, a Spanish company in which Messrs. Vickers are interested.

UNITED STATES.

FIRING TRIALS.—From 18th June to 21st July, an important series of trials, probably unique, with ex-German men-of-war as targets, was conducted by the American Navy, assisted by its own aircraft and by aerial vessels lent by the Army. The report of the Joint Board on the result of the tests was made public on 19th August. The report says:—"The aeroplane, instead of furnishing an economical instrument of war leading to the abolition of the battleship, has merely added to the complexity of naval warfare." The report points out the difficulty of drawing from the recent manoeuvres exact conclusions as to the ability of aircraft to hit surface vessels, as they were not conducted under war conditions, but it says it may be regarded as certain that the number of direct hits under such conditions was relatively few. The greatest damage, however, was done by the mining effect of large bombs exploding under the water alongside a vessel. The effect of direct hits, with even the largest bombs on hulls and heavy fittings, such as guns and turrets, was "negligible." In coast defence operations, says the Commission, aeroplanes possess important strategical and tactical qualifications. In adequate quantities they may prove a decisive factor in such operations. The development of anti-aircraft armament and the equipment of fleets with numbers of pursuing aeroplanes borne in aircraft carriers are considered by the Commission definitely to limit the possibilities of attacking fleets at sea by heavy bombing machines.

"IOWA" EXPERIMENT.—In addition to the attacks upon the ex-German men-of-war, including the battleship "Ostfriesland," and light cruiser "Frankfort," some experiments were made with the old American battleship "Iowa," on 29th June. The vessel was under her own power, but without pilot or crew, and her movements were controlled by wireless from the battleship "Ohio," the officers in which ship reported that out of one hundred radio orders or signals sent the "Iowa" all were executed within five or six seconds, and she responded to her rudder exceptionally well up to a fifteen degree turn. Aircraft were used to locate the "Iowa" and attack her with dummy bombs. Vice-Admiral H. P. Jones was in charge of the exercise on board the "Pennsylvania."

THE NAVY WAR EFFORT.—On 18th July, the report of the Senate Naval Committee concerning the controversy in May, 1920, between Mr. Josephus Daniels and Admiral W. S. Sims regarding the direction of the American Navy during the early months of war, was published. The majority report severely censured Mr. Daniels, ex-President Wilson, and Admiral Benson, the former Chairman of the United States Shipping Board, for many alleged errors of omission and commission, while the minority report stoutly defended them. The majority report said that for many months after the United States entered the war the primary motive of the administration seems to have been "to look to the future of the United States apart from the Allies, in case the latter might be defeated, or in case a peace without victory might be made." It gave Admiral Sims a large degree of the credit for the convoy system, and found that substantially all his recommendations in the first months of war were later adopted.

NEW CRUISERS.—On 29th September, the new light cruiser "Richmond" was launched at Philadelphia. She was the fourth of the ten vessels of this type in the 1916 building programme, the others being the "Omaha," launched on 14th December, 1920; and the "Milwaukee" and "Cincinnati," launched on 24th March and 23rd May, 1921. With the exception of the four British commerce-protecting cruisers of the "Raleigh" class, built for service on foreign stations, these new American men-of-war are the heaviest armed light cruisers in the world, and nominally the fastest.

NEW FLAGSHIP.—At the end of July, the battleship "Utah" arrived at Cherbourg, and Admiral Niblack, Commanding the American naval forces in European waters, hoisted his flag in her instead of the cruiser "Pittsburg." The "Utah" visited Cowes during the regatta week, and afterwards came into the Thames, when her crew were granted leave to visit London. Proceeding later to Scandinavia, she visited Copenhagen, where Vice-Admiral Niblack was received in audience by King Christian of Denmark on 17th September.

BATTLESHIP CHANGES.—The battleships "Arizona," "Nevada," and "Oklahoma," which in the last week of July represented the United States at the Peruvian Centenary, proceeded at the conclusion of the celebrations to join the Pacific Fleet. Launched in 1914-15, these oil-burning vessels replaced the "New York," "Texas," "Arkansas," and "Wyoming," which were launched in 1911-12, and which burn coal. The new battleships "California" and "Maryland" were also ordered to join the Pacific Fleet when ready.

NEW SEAPLANE-CARRIER.—In August, the seaplane-carrier "Wright," named after Wilbur Wright, was reported ready for service. The vessel formerly belonged to the emergency fleet of merchant ships, and was taken over by the Navy Department while still in the course of construction, for conversion into an aircraft tender and repair ship.

LOSS OF A SUBMARINE.—On 26th September, submarine "R6," of the Pacific Fleet, sunk whilst at anchor in San Pedro harbour, California. Newspaper reports stated that an open torpedo tube was the cause of the mishap. Two members of the crew were reported to have been drowned. "R6" was a comparatively new ocean-going submarine, one of a class ordered in 1917, with a radius of action of 6,000 miles and a surface speed of 12 knots.

MILITARY NOTES.

JULY—SEPTEMBER, 1921.

GREAT BRITAIN.

Colonels-Commandant.—On 15th July it was announced that His Majesty had approved of the appointment of Colonels-Commandant to the following administrative corps:—Royal Army Service Corps, 3; Royal Army Medical Corps, 4; Royal Army Ordnance Corps, 1; Royal Army Veterinary Corps, 1.

Bisley.—21st July. The King's Prize was won by a veteran rifleman, Mr. J. Cunningham, of Wooler, Northumberland, formerly Armourer-Sergeant R.A.O.C.

Tank Corps.—On 4th August, the reconstituted Tank Corps consisted of two service tank battalions serving at home, two cadre tank battalions which it is proposed to expand in 1922-23, and twelve armoured car companies—10 serving abroad and two at home. It is hoped to evolve before very long a light tank which will be a much more efficient machine than the present armoured car.

Disbandment of Cavalry Regiments.—On 5th August it was officially announced that the King had approved of the disbandment, as soon as the exigencies of the service permit, of the 5th Royal Irish Lancers, the 19th Royal Hussars (Queen Alexandra's Own), the 20th Hussars, and the 21st Lancers (Empress of India's).

Colours of the Coldstream Guards.—The three battalions of the Coldstream Guards, having received new Colours from the King on 2nd July, presented their old Colours to the cities of Newcastle-on-Tyne (on 5th September), Birmingham (6th September), and the border town of Coldstream (7th September), Newcastle receiving those of the first, Coldstream those of the second, and Birmingham those of the third battalion. Newcastle was one of the twin birthplaces of the regiment, which was formed in 1650 by the amalgamation of five companies of Sir Arthur Hazelrigg's Regiment and five companies of Colonel Fenwick's Regiment, which had been raised for the defence of Newcastle and Berwick respectively. It was while quartered at Coldstream in December, 1659, that the regiment, then called Colonel Monck's, received orders to start on 1st January, 1660, on the march to London, which ended in the restoration of Charles II. Birmingham has long been associated with the Coldstream Guards, and is one of the great recruiting centres for the regiment.

Ordnance Depot Change.—Portsmouth, instead of Woolwich, is in future to be the principal Army Ordnance Depot. In consequence Hilsea Barracks, now occupied by the Royal Field Artillery, are to be given up to the R.A.O. Corps—the Field Artillery moving to Fareham, and the Heavy Brigades (Royal Garrison Artillery) from Fareham to Woolwich.

Records of Casualties during the Great War.—1. The branch of the W.O. known as "C. 2. Casualties" has now been disbanded, and the records of casualties for the following periods:—

(a) Officers: From August, 1914, to 11th November, 1920;

(b) Other ranks: From August, 1914, to 30th April, 1920;

have been removed to the Disposal of Records Branch, Percy House Schools, Twickenham Road, Isleworth. All communications relating to Casualties during the periods mentioned above should be addressed to:—

The Secretary,

War Office (Casualty Records),

Percy House Schools,

Twickenham Road,

Isleworth.

2. Communications and A.F.'s relating to casualties subsequent to the above-mentioned dates, lists of admission to hospitals, lists of changes in the staffs of officers serving overseas, and telegrams relating to deaths and cases of dangerous illness should now be sent to the branches of the W.O. concerned, and not to the Casualty Records Branch.

Work for Ex-service Men in France.—On 13th September a party of nearly 200 ex-service men left England for France to work in the devastated areas, accompanied by Lieut.-Colonel Crossfield, D.S.O., Vice-Chairman of the British Legion, work for the men having been secured by the Legion's French organization. In an interview Colonel Crossfield stated that there was plenty of scope for this class of work in France as 58 per cent. of its manhood between the ages of 18 and 35 had been lost in the War. The British Legion bore the cost of sending the men over to France, the South-Eastern and Chatham Railway Company charging a special cheap rate for the party in order to aid the project. This first, and experimental, party was accompanied by an interpreter and welfare officer, who are to live with the men and report progress to the Association. Should the experiment prove a success other parties will be sent out.

War Decorations.—The total number of war decorations issued from 1st August, 1920, to 31st August, 1921, was officially stated, on 13th September, to be:—

Distinguished Service Order	...	...	...	...	...	1,116
Military Cross	...	...	...	...	...	6,469
Royal Red Cross, 1st Class	...	...	...	...	...	225
Royal Red Cross, 2nd Class	...	...	...	...	...	1,300
Grand total	...	...	...	...	...	9,110

Cavalry Roll of Honour.—During September the losses in killed sustained by the British Cavalry Regiments in the Great War were disclosed in the official roll of the names of the rank and file who lost their lives. The roll contained 8,630 names.

IRELAND.

On 12th July a truce came into force between the Crown Forces and those of the Irish Republican Army, pending the negotiations between the Government and the Sinn Féin Leaders, and on 18th July General Macready, after interviews with the Chief Liaison Officer of the I.R.A., agreed to the removal of all restrictions on fairs and markets in the Martial Law area.

On 30th August disturbances broke out in Belfast, heavy firing taking place between Sinn Féiners and Orangemen in the York Street area. The fighting, which

lasted late into the night, was resumed on the 31st, extending to Old Lodge Road, in the neighbourhood of Carrick Hill, as well as a number of streets abutting on the docks. Snipers armed with rifles were much in evidence. Armoured cars, manned by police, patrolled the affected areas continuously but with little effect, till troops were called in. The casualties among the civilian population up to the evening of 31st August were about 14 killed and 60 wounded.

EAST AFRICA.

On 2nd September it was reported from Nairobi that Abyssinian raiding parties had crossed the frontier into Kenya territory and that the British had been obliged to evacuate two posts. On 4th August a distinct affair took place—the British fighting a successful action with an armed force of raiders who crossed the River Daua, near Neboi (40 miles west of Dolo in the Jubaland province). The raiders numbered 150 men of the Auliham tribe of Somalis, armed with rifles, accompanied by 100 Dogodia Abyssinians armed with spears, their object being to raid stock from tribes under British protection. The raiders crossed the river at three points, but the fords were soon after closed by pickets of the King's African Rifles, while part of that regiment attacked the enemy on their front and flank. The fighting began at 3 p.m. and continued till nightfall. The British force finally drove the raiders on to the pickets on the river bank and recovered the whole of the looted stock of 2,000 head of cattle.

INDIA.

North-West Frontier.—On the 5th July a communiqué from Simla reported a number of attacks by water parties upon pickets and posts. A party of 100 Mahsuds attacked a telegraph repairing party near Kotka, but was driven off. Another party attacked at Ladha on 23rd June, but was driven off after a sharp fight, in which Gurkhas and a company of the Queen's Regiment took part. The Mahsud capital at Makin was shelled from Ladha and Prazha Camp on 21st June with good result and great moral effect.

On 9th July a communiqué gave details of fighting on the N.W. frontier which took place shortly before that date, as a punitive measure for sniping at a line-repairing party near Palosina (Southern Waziristan), on 29th June. A Company 2/21st Punjabis, with Lewis guns and an armoured car, under the personal command of Lieut.-Colonel Sherlock, was sent out from Jandola after the enemy, but the force was held up by enemy reinforcements which were cleverly sangared and prepared for a prolonged resistance. The British force, in the absence of reinforcements, withdrew, beating back, with grenades, an organized attack by the enemy. The British casualties were heavy—Lieut.-Colonel Sherlock, Captain Schneider, and 15 Indian other ranks being killed, and one British officer and two Indian other ranks wounded.

On 7th September the "Pioneer" reported an unprecedented development as the result of the recent burning of two North-West Frontier villages as punishment for the murder of some Sepoys. The Kheodad Khel clan, of the Zaimukht tribe, inhabiting a district north of Thal, burnt three villages inhabited by immigrant Wazirs, who, from these villages, had been constantly raiding into British territory near Kohat.

On 12th September it was considered at Simla that the flight of Musa Khan indicated the breaking up of the opposition in Waziristan. With a few followers he took refuge in Shakin, across the Afghan border, where Shah Daula and Abdur Razak fled last December after the British advance to Sarwakai. The Abdullai Mahsuds were also reported as ready to submit.

North-West Frontier Medal.—On 6th September it was announced that the King had commanded that the "India General Service Medal, 1908," in silver,

with clasp "Waziristan, 1919-1921," should be granted to all officers and men of the Waziristan Force who took part in the operations on the Bannu line between 1st October and 27th November, 1919, and the Tank line between 1st October, 1919, and the close of the present Wana campaign.

The medal, with clasp, "Mahsud 1919-1920," will be granted to all officers and men who served under Major-General A. Skeen, west of and including Jandola, between 18th December, 1919, and 8th April, 1920. Officers and men already in possession of the medal will receive the clasp only.

Indian Troops Overseas.—At the end of August sanction was given for the employment of 15 Indian battalions oversea at the expense of the Imperial Exchequer. This enables a permanent increase to be made to that extent in the Indian Army.

Auxiliary Force.—The total of recruitment for the Force up to the end of August was over 28,000. It was expected that the establishment of 30,000 would be reached by the enlistments in September (the final month for recruiting), owing to the stimulus of the Moplah rising.

Moplah Rising.—In August a rising of Moplahs took place in Malabar, the insurgents murdering Hindoos and some Europeans and destroying Hindoo temples. H.M.S. "Comus" was dispatched to Calicut, arriving on 25th August, on which date dacoity, looting and the murder of Hindoos was rife in Walavanad and Ponnani district, also east of Calicut district. A relief party left Calicut the same day for Malapuram. On 26th August the disturbance continued with widespread violence and robbery; while order was restored in some places, the rioting spread to others. Reinforcements were sent to deal with the fresh outbreaks, and martial law was proclaimed throughout the Malabar area. In some districts the Moplahs proclaimed "Swaraj," or Home Rule, and raised the Green Flag, at the instigation of Caliphate agitators. By the 26th the railway to Calicut—which had been torn up—was restored, except ten badly damaged miles. The violence of the Moplahs was especially directed against Hindoos in the Ernad and Walavanad districts. On 26th August a British force consisting of 200 Leinsters and special police, marching from Calicut to the relief of Malapuram had a five hours' engagement with about 1,000 Moplahs at Pukkatur. The rebels, many of whom were disbanded Sepoys who had served in the British Army in Mesopotamia, and who were armed with carbines, sporting rifles, swords, and knives, attempted to ambush the column between Kondotti and Malapuram. They attacked from front, rear and flanks, and were dispersed after four hours' hand-to-hand fighting with the loss of 400 killed. The British casualties were:—Killed, Mr. Lancaster, Assistant Superintendent of Police and two British soldiers; wounded, one British officer and a number of other ranks.

On 27th August a movable column from Kullipuram reached Malapuram and relieved the garrison. On 28th August British troops, including cavalry, arrived at Calicut and proceeded to the disturbed areas. The rebels evacuated Tanur and Parrapangadi and other places and took to the hills. By this date the railway from Calicut to Shoranur (junction to Cochin) had been repaired.

The situation on the morning of 28th August was as follows:—

The relief of Malapuram had been effected.

The railway, to within 27 miles of Calicut, was re-opened.

Troops from Cannanore, 36 miles north of Calicut, were putting down disturbances at Quilandi, 10 miles north of Calicut.

A platoon of the Leinsters, with two Lewis guns, had been sent to Gudalur, in the Nilgiri Hills, to protect planters.

On 29th August columns from Malapuram, Calicut, and Tirur—that is from east, north, and south—were converging on Tirurangadi.

Later reports stated that during the previous week a company of the Dorset Regiment, guarding the railway at Patambi, was attacked by Moplahs, who were driven off, losing about 500; also that during the action of Pukkatur, on 26th August, the rebels barricaded themselves in the houses, and that the British troops had to carry a succession of redoubts by assault.

30th August. The situation on this date was:—

The railway to Calicut had been temporarily repaired for running by day, and was held by troops, but the interior of the Malabar area, other than the Palghat district, was not under control. Throughout the affected area Government offices had been wrecked and looted, and communications obstructed, while famine conditions were imminent in portions of the area. Europeans and Hindoo refugees of all classes were concentrated at Calicut. A large gathering of rebels was reported at Parappamagadi, which was cleared during the previous week, and a British detachment was sent to this station by special train. 5,000 Moplahs were entrenched round the Mosque at Tirurangadi, while troops were on the march to disperse them. In the fighting at Pukkatur, near Malapuram, on 26th August, the rebels displayed the utmost ferocity and fanaticism—even wounded men continued to fight, and rushed through Lewis gun fire to the points of the British bayonets. A marked feature of the fighting was the improved tactics and trench digging of the Moplahs, comparing with the admirable fire discipline and troop leadership of the North-West Frontier tribes.

1st September. Severe fighting took place near the Mosque at Tirurangadi. Ali Musaliar, the rebel Moplah leader, and 30 others were captured, after a resistance lasting three days and a determined counter-attack on the troops, during which bayonet work of the closest description took place, the Moplahs making desperate efforts to get in with their knives, even when impaled on the bayonets.

5th September. A large Moplah force was reported to be concentrated under the leadership of Hadji, preparing to show fight. Over 300 rebels, arrested at Tanur and elsewhere, were sentenced by special Magistrates at Tanur, under martial law regulations, to two years rigorous imprisonment for each offence of looting, removing rails, etc. Of the two columns sent from Malapuram against the rebels the Dorset column, returning from Pandukad, met with no opposition. The second column reached Perintalmanna (13 miles south-east of Malapuram) without incident. A small force marched to Pukkatur and arrested rebels, while a detachment of the 64th Pioneers reached Ponnani (on the coast, 35 miles south of Calicut). The District of Wynaad (in North Malabar) remained quiet, and the Moplahs of the Nilambur area (30 miles east of Calicut) were leaving their villages for the jungles.

9th September. Two gangs of rebels were still out, but the Queen's Bays had by this date been sent back to Bangalore.

10th-12th September. On the 10th a Moplah mob entered the forest buildings at Nilambur and fired them. Another mob, from Mannarghat, numbering about 1,000 fully armed men, attacked the police station and attempted to kill the Sub-Inspector and seven constables, who, however, escaped. The last-mentioned disturbance apparently occurred at Palghat.

16th September. The situation in Malabar remained serious. The interior of Ernad and Walavanad districts was still controlled by the rebels, whose strength was estimated at 3,000. The troops were hampered by the mobility of the rebels and by the difficulties of transport and communications. The spirit of the rebellion was unbroken, and it was reported from Nilambur (36 miles east of Calicut) that Varian Kunnath Kunhammad Hadji claimed, and was exercising, independent authority in East Ernad, describing Ernad and Walavanad as Caliphate kingdoms.

On 21st September the India Office announced that a British column, of three platoons, was attacked by 70 Moplahs four miles from Manjeri (Ernad District). After half an hour's fighting the rebels were dispersed losing 10 killed. Sporadic raiding and wholesale looting were still prevalent in parts of Malabar, where 400 armed rebels were at large under Seethi Koya Thangal, who had proclaimed a Caliphate Kingdom with himself as its Governor. A column of the Dorsets, under Major Weldon, engaged and defeated the rebels at Sulliodmala, two miles west of Karavara Kunda, the Moplahs dispersing to the north-east and south-east.

22nd September. A column of the Suffolk Regiment reached Cherpsloberry. Rebels were still reported near Manjeri (south-east of Calicut).

23rd September. Major Weldon's column of the Dorsets marched from Pandikkad (near Tirur) and engaged rebels near Nenmini. The column was attacked soon after leaving camp, its casualties being two Dorsets killed and one wounded.

24th September. Colonel Herbert's column of Dorsets, advancing on Nilambur, was attacked near that place—casualties one killed, seven wounded. Nilambur was occupied. The rebels lost 20 killed. About this date 300 rebels were round Manjeri, while another 300 looted Tirur from the south and east. The Suffolk movable column reached Kumaramputtur without opposition.

26th September. The military situation was reported as well in hand, and the columns engaged in clearing the country were coming in contact with bodies of rebels in the course of rounding them up.

MESOPOTAMIA.

15th August. In the Kurdish district, east of Mosul, insurgents attacked Rania (100 miles east of Mosul), but were driven off after four hours' fighting by the levies in garrison, assisted by friendly tribesmen. The latter assumed the offensive on the 17th and 18th, attacking and clearing two hostile villages north-west of Rania. Effective aerial action was continued from 13th August to 20th August around Rowanduz and Batas.

[The Kurds attacked and captured the Arab post at Batas (63 miles east-north-east of Mosul) on 31st July, and subsequently took possession of Rowanduz (81 miles east-north-east of Mosul), and combined with Turks to set up a Government there.]

ALBANIA.

During September, war broke out between Serbia and Albania (both members of the League of Nations), on the question of the delimitation of the Albanian frontier. On the 19th September the Serbians (under the command of General Martinovitch) attacked the Albanian forces on the Drin River, using heavy artillery. The Albanians, outnumbered, fell back.

20th September. The Serbians occupied and set fire to Aras (on the Drin, about 46 miles south-east from Scutari) and Muher; on the same day they attacked in the Kastrate (frontier district 13 miles north of Scutari), but were repulsed, although the Albanian losses were very high.

21st September. The Albanians counter-attacked and forced the Serbians to evacuate all the territory they had occupied.

ASIA MINOR.

Towards the end of June the Greeks had eleven infantry divisions and several independent regiments in Anatolia. Four divisions were on the Brusa front, six along the Smyrna-Afium Karahissar Railway between Ushak and Turlu Punar, and one guarding the right flank, near Chivril, to the south. The Turks, expecting

to be attacked from the Brusa front, in the direction of Eskishehr, with a simultaneous thrust at Kutahia from Ushak, left five of their thirteen or fourteen divisions (generally about 40 per cent. inferior in bayonet strength to a Greek division) in the Boz Enyuk—In Ennu position. A small detachment held Hermanjik, in the Adranos (Rhyndacus) valley, four divisions with two weak cavalry divisions were south of Kutahia, and one division held Afium Karahissar. The reserve was near Eskishehr. Only two Greek divisions advanced from Brusa to Bazarjik, while a small detachment demonstrated against Bilajik till 13th July. The attention of the Turks was concentrated on this front while the remainder of the Greek Brusa force marched up the Adranos valley. To the west of Kutahia it divided, one part advancing on Kutahia, and the other attacking the heights to the north-west of the town. At the same time a small column of all arms crossed the Dumanieh Dag from Ainegül, and descended on Kutahia from the north. Meantime the southern advance began in July, the force being seven divisions strong, most of the troops in the Chivril region having been brought up to the Afium Karahissar Railway. Starting when the Brusa force had already reached the first Turkish positions—the Turk still believing the main attack to be coming from the north—the southern offensive made ground rapidly. The advance was in three columns—the first (less than a division) advanced from Ushak to Gediz, the second moved north from the Turlu Punar area on Altuntash, the third took Afium Karahissar on 14th July, wheeled to the left and advanced northward along the Anatolian Railway. The Turks at first held up a Greek attack on the Ushak Road, but surprised and outflanked by the Altuntash column, and having their communications threatened by the third column advancing further to the east, fell back to the north. This Turkish division reached Kutahia during the action of 15th-16th July, but the town being then threatened from all sides, Izzet Pasha withdrew his force towards Eskishehr.

The third column, which reached a point near Assar, on 17th July, swung to the north-east along the valley of the Seidi River towards Seidi Ghazi. The Turks, on 19th July, fought an action here to cover the retreat from Eskishehr. Meanwhile their troops on the northern front retired eastward, opening the front at Bazarjik to the Greek Brusa force, which descended on Eskishehr from the north.

By 20th July the Turks were in retreat, but made a counter-attack to the north-west and south-east of Eskishehr on 21st July, which was broken, the Greeks pursuing the enemy towards the north and to the east. The Turkish line of retreat by the Angora Railway was cut and the Greeks occupied a point 45 kilometres from Eskishehr. The Turks made a new attack at Chivril, on the extreme south of the Anatolian front, but were repulsed with the loss of 13 guns and 1,500 casualties. By 25th July the Turks had retired about 30 miles to the east of Eskishehr, and the seat of the Nationalist Government was transferred from Angora to Sivas, while, by 28th July, Greek troops had advanced by rail to Sarakein, 65 miles east of Eskishehr, nearly half way to Angora. On 3rd August the Greek armies held a 300-kilometre front on the line Ada Bazar-Eskishehr-Afium Karahissar. By 8th August the second phase of the Greek advance had begun—an attack being delivered on the Turks north of Lefke (15 miles north of Biledjik). The Turks, being outnumbered, retired. On 16th August the Greek troops, who had met with little resistance, held the line Mandra (on the Sakaria River)-Kaimaz-Ak Küprü (on the Pursak River, 70 miles east of Eskishehr), and had occupied Sivri Hissar. On 17th August a battle took place at Gordium, near the confluence of the rivers Sakaria and Pursak, where Kemal Pasha made a stand, and by the 18th the Greeks, by forced marches, reached the heights east of Muhalitza, and had advanced to Fethioghlu and Amorion. The Turks, after a weak resistance,

retreated, destroying the bridges and railroad on their way. On this date the Greeks were on a semi-circular front extending north to south about 80 miles. In the centre, east of Sivri Hissar, they were about 50 miles from Angora.

By 19th August the Turkish resistance was increasing, and Kemal Pasha was concentrating to the east of the Sakaria River forces brought from Cilicia and the Caucasus—estimated at 60,000. By the 20th August Kemal had retired to his trenches beyond the Sakaria. A telegram to *The Times* from Smyrna, dated 21st August, stated that the Greeks had crushed the Kemalist left wing and had annihilated the Turkish cavalry, but that the Turkish centre was still holding out.

By 22nd August the Greeks had crossed the upper course of the Sakaria, endeavouring to turn the Turkish left. On 26th August a battle took place on Ak-Gucol, but the results were not reported. At Tulumunar the Turks unsuccessfully attacked the Greeks; a second attack was also repulsed, both sides losing heavily. Kemal Pasha was strongly entrenched in his selected positions, and apparently able to hold out.

28th August. The Greeks, after three days' heavy fighting, crossed the Sakaria at all points between the Beylik Keupri railway bridge (railway to Angora) and the confluence of the Sakaria and Ilija rivers (20 miles farther south). The Turks fell back to a second line, except near the salient on their left centre, which the Greeks attempted to reduce by attacks from the direction of the Sakaria and from the lower Ilija.

29th August. The Turks still held strong positions at the junction of the Sikaria and the Pursak, with reserves farther north. They held the line Akentousil—Inkil—Mangios—Meik. On the left of the Sakaria the Greeks, having occupied Guek, were attacked by the Nationalists, who were repulsed and withdrew to the north.

30th August. A violent battle was taking place on the Sakaria. The Greek front on this date extended for 80 miles, and their advance on Angora was being carried out with deliberation. By 30th August, farther east, on the desert front, the Greeks had made a little ground, and considerable progress on the extreme right in the direction of Chuluk, 30 miles south of Angora.

31st August. The Turks were falling back after a long and stubborn engagement in which three-quarters of the Greek Army in Asia Minor was opposed by seventeen Nationalist infantry and four cavalry divisions, and the Angora Government was withdrawing east as a result of the pushing in of the left flank of the Turkish Army. The Turks, to cover their retreat, made a counter attack and recaptured the eastern half of Chaldagh Mountain, forming the keypoint to their second line position north of the original line along the hills north of the Ilijasu, or Gyoksu, an affluent of the Sakaria. The Greeks, however, held the western half of the mountain, and on 1st September their right had nearly reached Haimana, while they had succeeded in repairing the Eskishehr-Angora Railway as far as Sarikevi, 25 miles from the Sakaria railway bridge.

2nd September. Reports from Smyrna stated that the Greeks had repulsed all Turkish counter-attacks except at their fortified position east of the Sakaria, where, on this date, heavy fighting took place. The Greeks, moving northwards towards Angora, reached the Artiz Mountains.

3rd September. The Turks, after repeated counter-attacks, were in retreat on the south and centre.

4th September. The Greek advance continued steadily. After severe fighting they occupied the heights of Bashkevi, near the railway line at Polatli, and, to the east, reached Gollakili. The Turks retreated fighting, with heavy loss of life on both sides, and a large number of wounded.

5th September. Kemal Pasha, fighting hard in retreat, in an effort to save his heavy artillery, was being pressed on all sides, the Turks losing heavily as they attempted to recapture every place lost, by counter-attack. The Greek losses were also severe. The average distance of the Greek lines from Angora was 40 miles, and Greek Engineers were repairing the railway line, destroyed by the Turks, between Eskishehr and the Sakaria.

8th September. It was reported from Constantinople that the battle of Sakaria had ended in a stalemate, both armies having fought to a standstill, and both were suffering from supply and transport difficulties. As the result of the battle for Angora the Greeks were, on 9th September, withdrawing westward, after having, on their right, got to within 30 miles of that town.

10th September. The Turks attacked the Greek centre and left but were repulsed. The Greek decision to give up the attempt to take Angora and to withdraw westward was reached before the Turks launched their attack. Apart from losses in men, the Greeks had experienced very great difficulties in bringing up supplies, and were in particular short of guns and ammunition.

14th September. A Royal Decree was issued in Athens summoning conscripts of the 1922 class to the Colours, as well as all up to the age of 40 who have acquired Greek nationality since the beginning of the present year.

17th-18th September. On the 17th the difficulties of communication forced the Greeks to retire to the west of the River Sakaria. On the 18th the Turks crossed the river but were driven back by a Greek counter-attack. The Greeks in their retreat across the Sakaria lost heavily, but retired in good order towards an entrenched position covering Sidi Ghazi and Eskishehr.

20th-21st September. The Greeks again fell back to a line from Muhalieh (26 miles to the north of Sivri Hissar) to the heights seven miles to the east of that place. There was no pursuit by the Turks. About the 27th September the Greeks were holding the line Bozdagh Alpi Keui covering Sidi Ghazi, having so far effected their retreat without any great loss of transport and munitions.

BULGARIA.

Towards the end of September the Council of Ambassadors decided to allow Bulgaria to retain, temporarily, 13,000 frontier guards and gendarmes on a conscript basis. This number, plus the 3,500 volunteer soldiers obtained, should, it is considered, be sufficient to maintain internal order.

CENTRAL ASIA.

On 17th July Nizam Bai, an independent Ferghana chief, captured Irkistam (annihilating the Bolshevik garrison) and Gulcha, due north on the Khokand-Kashgar road, with large quantities of arms and ammunition. The scene of the fighting is on the northern side of the Pamirs and along the Tashkent-Khokand-Kashgar road.

GERMANY.

War Losses.—General von Zwehl, in the "Militär Wochenblatt," gives figures of the strength of the Officer Corps in August, 1914, and in January, 1919, showing how many officers were actually employed during the War, and giving the numbers of the casualties sustained. On 1st August, 1914, there was on the rolls of the Active Army and of the Beurlaubtenstand (Reserves) a total of 49,051. On 10th January, 1919, these numbers had increased to 164,823, in spite of the great losses which had been sustained. Of the officers on the active list 45,923 took part in the War, and 12,612, or 24.7 per cent. fell, while of those of the Beurlaubtenstand 226,130 were employed and 35,493, or 15.7 per cent. were killed, or died of wounds or disease. The total number of officers and men of the German Army who lost

their lives in the War was 1,822,545 (according to later statistics 1,808,545), and 4,247,143 were wounded, including cases returned on the wounded list more than once.

New German Army.—According to *The Times*, of 26th September, the German Government is attempting to make provision in respect of army clothing, personnel, depots, and material for an army of 800,000 men. Under the Peace Treaty the German Army is limited to 100,000 men, but by the masking of army administrative services under Civil Service estimates Germany has attempted to maintain the cadres of an army out of all proportion to the 100,000 prescribed by the Treaty of Versailles. The present army is designed to serve merely as a cadre of the old army. There is a great disproportion, sometimes as high as 50 per cent., of N.C.O.'s, and an excessive number of senior officers in a regiment. With regard to reserves of men, the "Security Police" is—*The Times* considers—in effect an army reserve of the quality of first line troops. The German Government, in collusion with the State Governments, is cherishing a plan for the transformation of the whole of the police forces of Germany into one huge, mobile reserve; a reserve armed, trained, and equipped in the same way as a modern field army except in respect of heavy artillery.

Destruction of German Armaments.—The Inter-Allied Commission, after two years of work, issued, on 26th September, the figures of arms, etc., destroyed. Guns, 32,864; small arms, 4,306,000; machine guns, 84,000; machine gun barrels, 212,000; live shells, 34,500; small arm ammunition, 358,000,000 rounds; mine throwing ammunition, 3,750,000 rounds. On the other hand there were 116 field guns of various sizes undestroyed—apart from the 15,000 the Germans have never accounted for—while the Commission had notice of 2,000 machine guns, 181,000 machine gun barrels, 900,000 shells, 88,000,000 rounds of small arm ammunition, and 450,000 rounds of mine thrower ammunition.

UPPER SILESIA.

5th July. By midnight of 5th-6th July the evacuation of Upper Silesia was officially complete, although armed insurgents were at large in the district. British troops were, at this date, in occupation of the Polish frontier down to Beuthen, with headquarters at Tarnowitz; the French occupied Königshütte, Kattowitz and the southern region.

21st July. It was reported from Oppeln that a French column entering Kosel had met with a violently hostile demonstration and was forced to fire.

At Rosenberg a convoy of prisoners, under an Italian escort, was attacked in force by inhabitants of the district, and the Italians were obliged to abandon the prisoners.

16th September. Between 7th and 16th September the following movement of British troops took place:—

General Heneker and Headquarters from Tarnowitz to Gross Strehlitz.

2nd Royal Inniskilling Fusiliers to Oppeln in relief of 2nd Durham Light Infantry.

1st Royal Munster Fusiliers to Tarnowitz.

Headquarters and two companies 2nd Durham Light Infantry to Koschentin (13 miles north of Tarnowitz), and two companies to Lublinitz.

On the 16th, the other battalions of the British Upper Silesian Force were situated:—

2nd Leinsters—Rosenberg, Guttentag, Lübnitz area.

1st Royal Irish Rifles—Tarnowitz and north and west of it.

3rd Middlesex Regiment—Beuthen and north and west of it.

2nd Connaught Rangers—Beuthen and east of it.

14th Hussars—Distributed between Tarnowitz and Rosenberg.

On the 17th July the French Foreign Office announced that the German Selbstschutz formations had only undergone a mock demobilization. Only 250 rifles and one damaged machine gun had been handed over to the Allied controlling officers. Out of General Hoefer's 40,000 men, 10,000 remained in the country to which they belonged, 10,000 were divided into groups and distributed in various localities, and the remaining 20,000 were being maintained either in Middle or Lower Silesia, or had been granted a temporary furlough, ready to rejoin at a moment's notice. Thus the German Free Corps remained on a war footing, either in the plebiscite territory or at its gates. By the 21st July the Inter-Allied High Commissioners in Upper Silesia completed a tour of the plebiscite territory, and addressed a note to the Conference of Ambassadors pointing out the double necessity of sending reinforcements to Upper Silesia in order to keep the Poles as well as the Germans quiet, and of taking a rapid decision on the partition of the plebiscite zone.

MOROCCO.

1st July. Spanish military operations in Morocco began successfully shortly before this date. Strong columns operated against the stronghold of Raisuli, in Beni Aros, with success. Stiff opposition was met with, the Spaniards losing 80 killed and wounded. On 7th July the Spanish troops were advancing slowly but steadily on Raisuli's stronghold in Beni Aros. On 6th July important progress was made when the Spanish columns operating from Tetuan and Laraiche joined in the action. On 24th July it was reported that the Spaniards had sustained a disaster in the Riff, the Commandant-General, General Silvestre, two columns, and some staff officers being killed. In consequence the campaign against Raisuli in the mountains of Beni Aros, where 15,000 Spanish troops had been operating, was abandoned. This reverse took place during the Spanish retirement from Mount Annal (in the direction of Alhucemas Bay, on the coast) from which General Silvestre decided to withdraw in consequence of the superior forces of the Moors. The Spanish losses amounted to 20,000 Spanish and native troops killed, wounded, deserters or mutineers. The remnant of the force fell back on Melilla, near which town they held, on 31st July, a line about four miles from the town, with a key position at Nador six miles distant. Eighteen miles further away an isolated column, under General Navarro, was on this date still holding out against the attacks of the Riff tribes.

1st August. The outlying Spanish positions at Nador, Zeluan, and Mount Azzui, were still held, and advanced posts at Melilla were engaged with the rebels near Sirimusa, but communications between Melilla and Nador and Mount Azzui were cut off.

4th August. By this date, however, as a relieving column had failed to reach Nador, its small garrison was forced to surrender, the survivors, some 200, being permitted to return to Melilla. Zeluan, 12 miles from Melilla, was also occupied by the tribesmen, on the surrender of its garrison, and Mount Azzui captured by the rebels. With the loss of Nador, Zeluan, and Azzui, the Spanish possessions in the Riff disappeared, with the exception of Melilla. By 9th August there was a large increase in the number of the enemy in the neighbourhood of Melilla, and fighting occurred between Spanish troops and tribesmen in the Melilla peninsula in a hitherto loyal district.

12th August. On this date there were about 20,000 Spanish troops in Melilla, while some 30,000 were being collected at Tetuan and Laraiche. Near Suk-el-Arba, to the south of Tetuan, the garrison was forced to evacuate the post of Menala with loss. A few days later a Spanish column captured a position controlling the

Peninsula of Tres Forcas, at the eastern base of which stands Melilla. The capture of this position cut off the tribes in the region from their revictualling bases. On 21st August it was announced that the Spanish garrison was evacuating Peñon de Velez, an island off the Riff coast, 80 miles east-south-east of Ceuta. This evacuation was necessitated by the presence of considerable Riff (rebel) forces on the neighbouring mainland (from which the island is only separated by a narrow channel), as the Riffians were using captured Spanish artillery.

23rd August. In consequence of the increasingly violent attacks against the Spanish supply trains, it became necessary to strengthen the escorts to the point that the convoys had swollen to the size of columns. Several encounters with the Moors developed into desperate hand-to-hand struggles.

27th August. A Spanish post in the Alcazar region—on the Atlantic side of the Spanish zone, some 200 miles west of the scene of the fighting round Melilla—was heavily attacked. The Spanish losses in killed were:—A colonel, two captains, two lieutenants, and about 100 rank and file.

5th September. By this date the agitation in the western part of the Spanish zone had increased, it being evidently part of the rebels' strategic plan to impede the concentration of the Spanish forces and to cut their communications. In the Sheshuan region incessant attacks were being made on convoys and on the lines of communication. Fresh Spanish troops, however, were being landed at Larache. On the 5th a communiqué from Melilla stated that:—On 3rd September the Moors attacked the Spanish positions at Mezquita but were repulsed; they also attacked Restinga and other positions, bombarding them with captured Spanish guns. Spanish batteries, supported by warships, destroyed the Moorish artillery.

[Restinga is on the narrow isthmus separating the Mar Chica from the Mediterranean. The plateau of Gurugu, where the Spaniards lost a considerable number of guns, overshadows Melilla from the south-west.]

9th September. It was reported from Melilla that a Spanish column provisioning Casabona was attacked en route from the direction of Beni Sicar. The column, under General Neila, consisting of 5,000 men in addition to the Foreign Legion and the Ceuta garrison, fought a pitched battle, the Moors using artillery. Later General Neila was reinforced by 6,000 men under General Sanjurjo, and beat off the attack. At times the fighting was hand to hand. The Spaniards reached Casabona.

12th September. A communiqué from Melilla stated that a column under General Cavanellas, supported by naval forces, had occupied the line Ras Quiviana—Suk el Arba (20 miles south-east of Melilla at the southern end of the Mar Chica). In face of an energetic attack by the Spanish troops, supported by heavy artillery fire, the tribesmen fled from their positions. In the Melilla district operations also started on the 12th September, the rebels withdrawing from Nador and other positions. General Cavanellas' column on this date arrived before Zeluan.

15th September. The guns at Gurugu (captured from the Spaniards) bombarded the suburbs of Melilla, and the Moors were offering resistance to the advance of the Spanish columns.

17th September. The main Spanish advance—under General Berenguer—commenced from Atalayon on the 17th, his forces by that date having been fully provided with all the necessary arms, ammunition and equipment. The Moors were driven from positions round Nador, which the Spanish troops occupied after hand-to-hand fighting, and at the same time the Moorish guns on the Gurugu hills were silenced. Later despatches stated that the village of Nador itself was reoccupied by advanced Spanish troops—loyal natives and the Foreign Legion—on the 15th September. On the 19th, Nador and Arboc (an important position on the outskirts of Nador) was held by General Sanjurjo's brigade, but the Gurugu

Mountains were still full of "hostile Moors who constituted a threat to the right (western) flank of the Spanish advance. To meet this a strong Spanish column, under General Berenguer (brother of the Spanish High Commissioner) blocked the heads of the gorges leading down from the Gurugu, while light batteries from Mar Chica and the guns of the Spanish Fleet at sea shelled the mountain. The cavalry of General Cabanellas was in position at the further end of the Mar Chica to sweep the plains of Bu El Areg—Zeluan being thus approachable on two sides.

PERSIA.

5th July. A telegram from Teheran reported that Bolsheviks had surrounded the Zanguezur district and that the final attack on the remnant of the National Armenian Government was imminent. On this date Turkish Nationalist agents were active in Tabriz, Resht, and Teheran. All British officers were being withdrawn from the north.

ROYAL AIR FORCE NOTES.

I.—THE DESERT AIR ROUTE BETWEEN PALESTINE AND IRAQ.

One of the first considerations in opening up the Desert Route was the selection of the best means by which the correct line to follow could be made visible from the air. After various experiments in Egypt it was found that a continuous mark on the desert was the kind most easily picked up, and a method of track marking was adopted, a plough furrow and the wheels of motor vehicles being found suitable means of showing the track across the desert.

It was found also that the marking of the boundary of a desert landing ground by the repeated passage of tenders round its limits furnished a landmark visible from a considerable distance. The only marking devices resorted to, therefore, were plough furrows, wheel tracks, and lime-wash or pitch markings.

It was found that a checkered black and white circle was most easily visible as a landing mark, except where there was either very light sand or very dark soil, where pitch or limewash—as the case might be—had to be used.

For the preliminary reconnaissance, motor vehicles had to be adapted to crossing the desert. The chassis was specially strengthened, a Leyland radiator fitted in addition to a condenser, and the ground clearance was increased by blocking up the springs; twin wheels were fitted back and front, and hoods were painted with a checkered black and white pattern, to facilitate recognition from the air.

Two of the vehicles were fitted as complete mobile W/T Stations.

The reconnaissances across the 500 miles of desert from Amman to Baghdad entailed considerable preliminary organization, and on the 12th May the party was distributed as follows :—

(a) Headquarters, Amman.

(b) Azrak, Advanced Post.

2 Armoured Cars, 1 W/T Station.

2 specially fitted Crossley Tenders.

(c) Car Reconnaissance Party.

3 Rolls Royce Tenders.

7 Crossley Tenders (specially fitted).

(d) Air Reconnaissance Party.

3 D.H.9.a. Aeroplanes.

(e) Base Party, Amman.

Headquarters Armoured Car Section, less 2 armoured cars, 3 tenders.

1 specially fitted Crossley Light Tender.

3 Crossley Light Tenders.

1 Flight No. 47 Squadron—less 3 machines.

1 Motor Cycle and Sidecar.

1 Trailer.

2 Water-carts, 1 Flight 47 Squadron, less Air Reconnaissance Party.

1 W/T Station erected.

1 W/T Station in reserve.

(f) 2 Handley Page Machines in reserve at Heliopolis.

On 2nd June, the Car Reconnaissance Party moved out to Azrak, there to establish an advanced dump, W/T Station, landing ground, etc. Two armoured cars remained to protect the advanced post.

On 10th June, orders were issued for the expedition to start, and on 26th June the Car Reconnaissance Party arrived at Baghdad.

Whilst preparations had been proceeding in the west, similar steps were being taken from Iraq. Valuable pioneer work was successfully carried out by the Royal Air Force co-operating with Major Holt, R.E., and his party, in establishing four landing grounds and in reconnoitring an intermediate track extending westward from Ramadie as far as El Djid.

Throughout the reconnaissance across the desert every advantage was taken of aerial reconnaissance and co-operation, and the greatest use was made of W/T communication both between machines in the air and ground bases, and the car party itself. Fuel, water, stores and provisions were regularly supplied to the car party by air, machines landing alongside the party on landing grounds newly chosen, and marked as the party proceeded ahead. Without this aerial co-operation no ground reconnaissance party could have got through such lava covered country as was encountered some 70 miles east of Azrak. Where it was impossible for machines to land near the car party, message dropping and message picking up were resorted to.

It was found, as progress was made across the desert, that ploughing was unnecessary, the car tracks themselves proving sufficient. All cars followed each others tracks, with the result that the desert crust was broken and as seen from the air made the track look more like a railway line than anything else.

II.—FOREIGN.

GERMANY.

The figures for delivery and destruction of aeronautical material up to the 24th of September were given as follows:—

	Surrendered.	Destroyed.
Aeroplanes	516	14,167
Seaplanes	58	
Airships	8	3
Balloons	24	65
Engines	4,091	25,037
Sheds and Hangars	116	196
Guns (machine)	656	7,626
Bombs	17,044	214,042

FRANCE.

The French Military Air Service, if reorganized in accordance with the Bill laid before the Chamber of Deputies on 19th May, 1921, will consist of approximately:—

	Officers.	N.C.O.'s and Men.
Observation Regiments	330	6,585
Fighting Regiments	240	6,485
Bombing Regiments	310	6,440
North African Regiments	175	3,410
Balloon Regiments	72	2,380
Miscellaneous (Schools, Labour and Meteorological Companies)	105	10,410
General Staff cadre	424	
Complementary Staff	111	
Total	1,767	35,710

Of this grand total of 37,477 about 3,650 are pilots or observers, i.e., about ten men are required for each aviator.

SOME FOREIGN MILITARY PUBLICATIONS.

REVUE MILITAIRE GÉNÉRALE.

No. 7 (July, 1921).

THE (FRENCH) IIND CAVALRY CORPS IN FLANDERS FROM 9TH APRIL TO 3RD MAY, 1918. (An important article of 50 pages, giving an account of the relief of part of General Plumer's Army by the French and the loss of Kemmel.)

THE RECASTING OF THE TRAINING MANUALS AND OUR DOCTRINE OF WAR.

THE STAFF OFFICER. (A lecture by a Naval Officer on the rôle, training and influence of General Staff Officers.)

No. 8 (August, 1921).

THE ORGANIZATION OF COLOURED TROOPS.

INFORMATION AND LIAISON. (How to get information at the front and how to send it back.)

A FRENCH DIVISION ON THE CHEMIN DES DAMES, 27TH MAY, 1918. (Account of the operations of the 22nd Division which was over-run by the Germans.)

THE NEW ARMY AND ONE YEAR'S SERVICE.

LES ARCHIVES DE LA GRANDE GUERRE.

No. 22 (May, 1921).

THE NEWSPAPER AS A GERMAN WEAPON OF WAR. (Account of the "Gazette des Ardennes.")

HOW THE GERMAN GENERAL STAFF CAMOUFLAGED THE TRUTH. (Extracts from the book of H. Binder, a correspondent at the German Supreme Command.)

BEFORE ST. MIHIEL, 1914. (Account of the fighting by a general.)

THE TANKS AT THE BUTTE DE TAHURE, 28TH SEPTEMBER-8TH OCTOBER, 1918. (An account of their successful use in the last offensive.)

No. 23 (June, 1912).

THE REPORTS OF THE COMMISSION DE L'ARMÉE. REPORT ON ARMAMENTS. (Deals with armaments existing in 1914 and 1918:—Guns, rifles, machine guns, tanks, chemical warfare.)

Other articles continued from previous number.

No. 24 (July, 1912).

A special number dealing entirely with Upper Silesia.

WISSEN UND WEHR.

No. 4 (July, 1921).

THE AMERICAN EXPEDITIONARY CORPS IN EUROPE, 1917-18. (A Summary from American sources. Continued in No. 5.)

GERMANY'S CALAMITY. (Consolation from history that no good came to Europe in the past when France was paramount.)

THE CAMPAIGN IN LORRAINE, 1914. By the Chief of the Staff of the 7th Division. (A valuable account of the operations of the German Sixth Army. Continued in No. 5.)

THE DEAD CRUISER AND HER GUNS. (The guns of the Königsberg with Lettow Vorbeck.)

No. 5 (September, 1921).

THE RHINELAND PROBLEM. (The Rhine should be Germany's river not her frontier.)

CHANGES IN THE STRATEGICAL AND TACTICAL PROCEDURE OF NAPOLEON COMPARED WITH THOSE OF THE WORLD WAR. By General Freytag-Loringhoven.

PRINCIPAL ADDITIONS TO THE LIBRARY.

THE BLACK WATCH AT TICONDEROGA AND CROWN POINT. By F. B. Richards. Third Ed. Illustrations. 8vo. New York, 1920. (Presented by the Author.)

1/5TH BATTALION THE LEICESTERSHIRE REGIMENT. A record during the War, 1914-1919. By Captain J. D. Hills, M.C. Illustrations and Maps. 8vo. (Echo Press.) Loughborough, 1919. (Presented by the Publisher.)

HISTORY OF THE 8TH BATTALION THE QUEEN'S OWN ROYAL WEST KENT REGIMENT, 1914-1919. Illustrations and Maps. 8vo. (Hazell, Watson & Viney.) London, 1921.

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- HISTORY OF THE PEOPLE OF THE UNITED STATES FROM THE REVOLUTION TO THE CIVIL WAR. By J. B. McMaster. 2 vols. 8vo. New York, 1890.

NOTICES OF BOOKS.

The Official History of the Great War: Naval Operations. Vol. II. By Sir Julian Corbett. Longmans & Co.

Sir Julian Corbett's second volume takes up the story after the destruction of Von Spee's squadron off the Falklands, and carries it down to the end of May, 1915, when Mr. Churchill left the Admiralty. Thus the first volume covered a period of four months, and the second covers rather less than six. If this rate were to be maintained, the whole series would occupy ten volumes; whereas it is understood that the expectation is that it will be completed in five. Indeed

in his preface to the present volume Sir Julian Corbett announces that his third will carry the narrative down to, and will include, the Battle of Jutland, thus covering a period of a year, and leaving two and a half years to be dealt with in his remaining volumes.

It will be remembered that with the first volume the necessary maps and plans, 18 in number, were issued in a separate case. The same course was adopted with volume I of Mr. Fayle's series on the commercial aspect of the War at sea, though the maps then numbered only nine. In the present volume, however, the maps are bound up with the text, or placed in pockets at the ends of the book; and as there are sixteen folding maps, nearly all of them large, an uncomfortably thick and very inconvenient volume is the result. It is to be hoped that in future volumes it will be found possible to revert to the original method of issue. The outstanding events included in this instalment are the battle cruiser raid on the Yorkshire coast, the squadronic action of the Dogger Bank, the repulse of the Turkish attack on the Suez Canal, the beginnings of the submarine war against merchant ships, including the sinking of the "*Lusitania*," and the inception and development of the Dardanelles campaign.

But the chief interest of this history is that it does not aim merely at describing operations which took place; it attempts also to put them into their true sequence relatively to the War at large, and in order to do so finds it necessary to consider also projects which never came to fruition. Considered in such a way any operation, for instance the Dogger Bank action, or the Dardanelles expedition, takes on an aspect entirely different from that presented in the contemporary press, or in personal narratives by eye-witnesses. Thus the first German raid on the East Coast in November raised the question of a redistribution of our naval forces, and this in its turn the further question as to what should be the limits of concentration. A certain measure of redistribution was carried out; but meanwhile it had become imperative to detach ships from England to deal with Von Spee. This brought in the consideration that their absence, when known, would be Germany's opportunity. Would another similar raid follow, or something more serious? The prospect affected the distribution of troops. The event was that a few days after the Falklands fight, which disclosed the absence of some of our battle cruisers, the German raid on Scarborough and Hartlepool followed. The new disposition made it possible for our battle cruisers to catch Admiral Hipper; and the narrative shows how, given ordinary luck, they would have done so. But the chapter of accidents and the luck of the weather was against them, and Hipper was missed, almost by inches. A further modification followed, and a few days after the second raid, the battle cruisers were brought south to the Forth. This time there was no slip between the cup and the lip, and the enemy was caught on the Dogger Bank. Sir Julian Corbett's explanation of the cause why that action was broken off prematurely resolves itself into a simple matter of a signal not taken in. And here it is apposite to say that, in great measure, the same explanation serves to explain how Admiral Hipper was missed at his return from the Scarborough raid. It is clear from these, and from other instances, that naval signalling in the War was by no means proof against the accidents and emergencies that arose. The result of the Dogger Bank action was that tension was relieved, the threat of a German landing of troops was greatly lessened, and the need of maintaining a great concentration of troops for home defence was less.

As concerns the Dardanelles expedition, the description of the fighting naturally does not disclose very much that was not already generally known. But the account

given of the inception of the enterprise is of the highest interest. Its immediate inspiration was the need to make a diversion to relieve the pressure on the Russians in the Caucasus; but it had its roots far deeper than that, in the crying necessity to break the deadlock which was apparent in France. If we continued to devote the whole of our military effort to the Western front, there was little prospect of any decisive result. What, therefore, could be done? Could troops be spared for an advance up the Flanders coast to take Ostend and Zeebrügge in the rear, aided by the co-operation of the Navy? Such a scheme would be of great naval value. Or should an expedition be set on foot to Salonica to help Serbia and straighten out the Balkan tangle? Or should a diversion be made at the Dardanelles? Or, again, was Lord Fisher's project to be undertaken and a serious attempt made against the German coast? There were other minor schemes, as, for instance, that against Alexandretta; and, with the one exception of Lord Fisher's proposals, Sir Julian Corbett treats them all fully. He shows what were the naval, the military, and the political views both in England and in France; and he shows how the attempt on the Dardanelles resulted from the reconciling of conflicting claims. He shows also, what is most interesting, how the scheme grew after it was once taken in hand; how from a mere diversion, from which we could withdraw at any time without serious loss of prestige, it developed by almost insensible gradations into a combined operation of the first order. He exhibits, too, some of the mistakes that were made, notably the failure to appreciate at the outset the good advice which showed a good observation station ashore to be essential, and the consequent failure to attempt the capture of Achi Baba when it might in all probability have been had at reasonable cost; and he appreciates the effect of each phase of the operations on the general situation. Nor does he hesitate to call a failure by its true name. Thus of the sinking of the ships on 18th March he writes: "The great attempt to force the Narrows with the Fleet had ended in what could only be regarded as a severe defeat. . . . Of the whole Allied fleet, one-third was spent in one day's operation. . . . Long afterwards, reports that were received from Constantinople went to show that the day's work had had as serious an effect on the Turks as on the Allies. So terrible was said to have been the havoc of the heavy ships' guns, and so far spent the moral and ammunition of the garrisons, that further resistance seemed hopeless. The impression prevailed that, had the attack been renewed, nothing would have induced the men to stand to their guns, and all the forts must have been abandoned. Such reports are not unusual under similar conditions, and later enquiries made in quieter circumstances tended to show that they were at least exaggerated." The passage will serve as a good instance of the historian's manner.

Alastair Gordon, R.N. By E. M. Tenison.

We are told that this book, which may be perhaps described as an historical novel of to-day, was written, "by request," to illustrate the principle of Imperial unity and to emphasize to the civilian public the traditions of the Fighting Services. It is the life story of a young naval officer in peace and war, and while no doubt much of the private life of the hero and his friends must be regarded as fiction, it is more than probable that some of the diaries are really human documents, while many of the happenings do indeed deserve the name of history. Alastair Gordon is sent home as a boy from India to the care of his Scottish grandfather, a retired naval officer, and to a home in which duty has been made something of a fetish in a family where to serve the country by sea or land has developed into a tradition. Alastair only remains sufficiently long among these surroundings, for the influence upon him of which his Scottish mother has laid the foundations, to imbibe

these traditions, when he is called to join his parents in Tasmania, and he is there when the South African War breaks out and he witnesses the remarkable response made by the Dominions to the call of the Old Country. Alastair's mother dies and his father, whom the force of public opinion rather than exuberant patriotism has sent to South Africa, dies on his way home from the war, when Alastair goes back to Scotland and in time joins the "Britannia," and from there enters the Royal Navy. From thence onward events move very rapidly, the Great Adventure begins, and all the young naval officer's service in distant waters, at home and abroad, is a preparation for the World War, which many had foreseen and prophesied only to be regarded as troublesome visionaries and disturbers of the public peace. The author gives a very vivid description of the beginning of hostilities and of the Jutland Battle, and ends with an account of the surrender of the German fleet; but while this book should be read, by old boys as well as by youngsters, as giving a striking picture of naval life during the years of preparation and achievement, it is more especially as an appeal to patriotism, Duty and Imperial unity, that it will deserve and assuredly find a large and appreciative circle of readers.

Copies are not obtainable from any publisher, but from the author only, at Yokes Court, near Sittingbourne, Kent.

NOTICE.

Fortescue's History of the British Army.

It has come to the knowledge of the Council that the Hon. J. W. Fortescue will be unable to complete his History of the British Army unless financial assistance is afforded him from outside sources; from the nature of the book it is not one which could have a large circulation. He has already brought out ten volumes, which brings the history down to 1815 (twenty-five years of work), and it is unnecessary to call attention to the immense value of the same, the enormous amount of research it has entailed, the expense incurred in the visiting the various theatres of war, and in collecting the information required. It would be a calamity should this colossal work not be completed. Mr. Fortescue originally designed his history to finish with the year 1870.

The Council, therefore, have directed the Secretary to endeavour to raise a fund with this object, and it is hoped that members of the Institution, and particularly the Senior Officers of the Old Army, will subscribe. It is anticipated that regimental messes will endeavour to become subscribers, a donation of £5 from each will produce a very considerable sum. The volumes to be published will embrace various Indian campaigns, and Officers' messes of the Indian Army are specially invited to become subscribers.

Subscriptions should be sent to the Secretary of the Institution, and they will be acknowledged in these notes.

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